

The Greenbrier Companies

PARTS CATALOG



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www.gbrx.com

THE
GREENBRIER
COMPANIES

Parts listed in this catalog are readily available for both replacement parts and new railcar construction.

To derive maximum benefit from this catalog, please note the following:

1. Include the part's name, stock part number and drawing number (where available) on your purchase order (Greenbrier's stock part number is provided for each part).
2. If an item you need is not in this catalog, please send drawing(s) along with your inquiry or order. Greenbrier has the capability of providing items unique to your needs.
3. All shipments are quoted FOB our plant.
4. Please send your inquiry and/or order to your Greenbrier Field Representative or to:

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4/10/2026

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General Freight Railcar






THE GREENBRIER COMPANIES



BODY SIDE BEARING SHIM (4" X 18")	Thickness	Weight	Part Number
	1/8"	2.50 lbs.	1024110
	3/16"	3.80 lbs.	1024111
	1/4"	5.00 lbs.	1024112
	3/8"	7.50 lbs.	1024113
<i>15-1/2" between hole centers. All holes are 13/16" diameter.</i>			


BODY SIDE BEARING – TAPERED (1-1/4" TO 3/8")	Total Length	Hole Center	Weight	Part Number
	18"	15-1/2"	17.00 lbs.	1022951
	15-1/2"	13"	14.10 lbs.	1022952

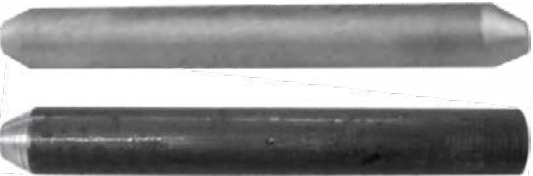
BRAKE BEAM GUIDE WEAR PLATE	Type	Weight	Part Number
	without centering device	3.00 lbs.	1024497

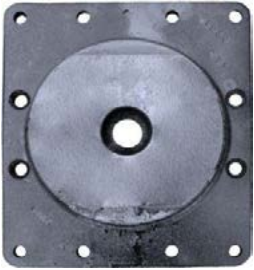
BRAKE PIN	Pin Diameter	Length Under Head to Center of Hole	Reference	Part Number
	1-3/32"	3-3/4"	3E4425-34	1026858
	1-3/32"	5-3/8"	3E4425-11	1026837
	1- 3/32"	6-3/8"	3E4425-13	1026846
	1-11/32"	3-1/4"	3E4427-01	1026850


BRAKE PIPE CLAMP – BASE	Pipe Size	Weight	Part Number	 Brake Pipe Clamp Base Assembly
	3/4"	0.65 lbs.	1022158	
	1-1/4"	1.15 lbs.	1022157	


BRAKE PIPE CLAMP – WEDGE	Pipe Size	Weight	Finish	Part Number	 Brake Pipe Clamp Base Assembly
	3/4"	0.30 lbs.	Black zinc phosphate coating	1024500	
	1-1/4"	0.60 lbs.	Black zinc phosphate coating	1024499	

BRAKE SHOE KEY	Weight	Part Number
	0.70 lbs.	1022515

CENTER PIN	Length	Diameter	Reference	Part Number
	15" double taper	1-3/4"	2K2275-01	271000045
	15" single taper	2"	1A1558-00	1024142

CENTER PLATES	Dimensions		Reference	Part Number
	<ul style="list-style-type: none"> • 18" x 20-3/8" • 13-3/4" diameter • 2-3/8" thick, 3/4" flange 	without holes	4F9279-01	1022879
		with 12 holes	3F1304-00	1022875
	<ul style="list-style-type: none"> • 21" x 20-3/8" • 15-7/8" diameter • 3" thick, 3/4" flange 	with 12 holes	2F8651-00	1022876


CENTER PLATE BOWL LINER (HORIZONTAL)	Material	Outside Diameter	Thickness	Reference	Part Number
	AISI C1040-1045	11-1/2"	1/4"	1G7705-01	1022286
		13-1/2"	1/4"	1G7705-03	1022287
		13-1/2"	1/8"	1G7705-04	1022288
		13-1/2"	3/16"	1G7705-06	1022289



COUPLER CARRIER WEAR PLATE	Nominal Thickness	Material	Reference	Part Number
	1/2"	AISI C1050	2H2634-00	1022296
	1/2"	ASTM A128 Manganese steel	51003167	671096-00



COUPLER CARRIER WEAR PLATE (FLAT)	Nominal Thickness	Material	Reference	Part Number
	1/2"	A514 Type B	1C0270-00	1022309
	3/8"	Carbon steel	1C0270-01	1022310
	1/4"	235-241 BHN	1C0270-02	1022311


DEFECT CARD HOLDER	Description	Weight	Part Number
	<ul style="list-style-type: none"> Defect Cards can be inserted and removed easily from side of holder The holder may be riveted, bolted or welded to car 	2.60 lbs.	1014249


DRAFT GEAR CARRIER	Dimensions	Reference	Part Number
	<ul style="list-style-type: none"> 8" wide x 20-3/8" long with (6) 15/16" holes 17-7/8" between holes 	11-80490-00	1024121


DRAFT KEY	Under Head to Center of Hole Dimension	Reference	Part Number
	16-1/2"	3H6878-03	1024397
	17"	3H6878-03	1024400
	17-1/2"	3H6878-03	671630-00
	17-3/4"	3H6878-03	1024398
	18"	3H6878-03	671022-00
	18-3/4"	3H6878-03	1024399
	19"	3H6878-03	1024401
	19-3/4"	3H6878-03	1024402


DRAFT KEY RETAINER & KEEPER (LOCK)	Description	Reference	Part Number
	Retainer	4G6459-00	671011-03
	Keeper (lock)	3G6458-00	1022283


DRAFT KEY RETAINER & LOCK	Description	Reference	Part Number
	<ul style="list-style-type: none"> • Retainer 	11-80472-01	1022858
	<ul style="list-style-type: none"> • Lock 	3D4510-00	1022857


DRAFT KEY RETAINER WASHER	Description	Reference	Part Number
	<ul style="list-style-type: none"> • 1/2" thick x 3-1/2" x 8-1/16" • AAR standard 	1A6443-00	211000084


DRAFT KEY SLOT, REINFORCEMENT	Description	Reference	Part Number
	<ul style="list-style-type: none"> • Cast steel AAR M-201 Gr B N&T • Use to repair and reinforce the center sill keyway 	4K8449-00	1022127


FOLLOWER BLOCK, Y44	Description	Reference	Part Number
	<ul style="list-style-type: none"> AAR S-119 Y44A 2-1/4" x 8-13/16" x 12-1/2" AISI C1050 Q&T 241-311 BHN 	1E8231-00	671035-00


HAND BRAKE RELEASE SPRING	Description	Weight	Part Number
	<ul style="list-style-type: none"> Spring is used to prevent the hand brake chain from coming in contact with the axle. 	1.60 lbs.	1022842






HAND BRAKE WHEEL (16" DIA.)	Weight	Part Number
	9.00 lbs.	1022418


LUG, FRONT DRAFT	Description	Reference	Part Number
	<ul style="list-style-type: none"> Weld in design Fabricated front draft lug suitable for M-901E draft gear pockets 	4W6735-00	1021423


LUG, REAR DRAFT	Description	Reference	Part Number
	<ul style="list-style-type: none"> • Cast carbon steel rear lug for 7/8" rivet applications • Use for repair and replacement 	3H6520-00	1022446


PLACARD HOLDER	Description	Reference	Weight	Part Number
	<ul style="list-style-type: none"> • 12-1/2" square placard holder • Adjustable mounting slot • Push slot for quick card removal 	3K5986-00	3.25 lbs.	100034797
				1022121


PLACARD BOARD & ROUTE CARD BOARD FRAME	Item	Weight	Part Number
	Placard Board Route	4.50 lbs.	1022377
	Card Board	1.65 lbs.	1022378


ROLLER BEARING RETAINER FRAME KEY (NARROW PEDESTAL)	Description	Reference	Part Number
	<ul style="list-style-type: none"> M-126 GR A, AAR S-377 NP S325 for 6-1/2 x 12 journal 	57321010	1022881
ROPING STAPLE	Description	Reference	Part Number
	<ul style="list-style-type: none"> With holes 	2J3274-01	1024423
	<ul style="list-style-type: none"> Without holes 	2J3274-00	1022210
ROUTE CARD HOLDER	Description	Reference	Part Number
	<ul style="list-style-type: none"> Aluminum Mechanically fastened 	4U5581-01	107283-01
	<ul style="list-style-type: none"> Carbon steel Zinc plated Welded application 	2G8768-00	171387-00


SIDE BEARING SHOE	Description	Weight	Part Number
	<ul style="list-style-type: none"> • Casting is to ASTM A-48 Class 30 • Overall size: 4" x 4-3/4" x 9" 	25.00 lbs.	1022466

STRIKER ASSEMBLY	Description	Reference	Part Number
	<ul style="list-style-type: none"> • Fabricated striker and front draft lug • Assembly designed for M-901E draft sills 	4K3660-05	1020762

SUPPORT SPRING, HAND BRAKE CHAIN	Description	Reference	Part Number
	<ul style="list-style-type: none"> • Used to prevent the hand brake chain from coming in contact with the axle. 	11-82936	1022842

U-BOLT, ANGLE COCK	Description	Reference	Part Number
	<ul style="list-style-type: none"> • Supplied with rolled threads for added strength, accuracy and uniformity as compared to cut threads. 	1D4547-01	1027081

U-BOLT, PIPE CLAMP	Description	Fits Pipe Diameter	Thread	Reference	Part Number
	<ul style="list-style-type: none"> All bolts supplied with rolled threads for added strength 	3/4"	1/2-13 UNC-2A	1D6390-00	1027082
		1-1/4"	1/2-13 UNC-2A	1D6539-00	1027084
		1-1/4" to 1-1/2"	5/8-11 UNC-2A	1D6391-00	1027083

UNCOUPLING ROD BRACKET ASSEMBLY	Description	Weight	Part Number
	<ul style="list-style-type: none"> Holes for mounting to railcar are 9/16" diameter 	9.10 lbs.	1024462

Covered Hopper

THE
GREENBRIER
COMPANIES





General Freight Railcar


Covered Hopper


Tank Car


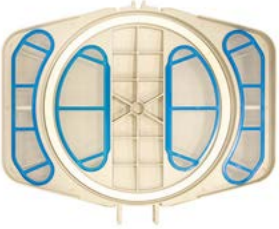


Multi-Max™ Auto Rack


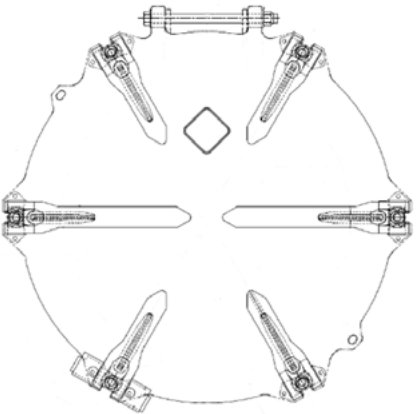
Cushioning Units


ADAPTERS, ALUMINUM & PLASTIC	Fits Outlet	Adapter Only	Reference	Part Number
	5135	Aluminum	6J9117-00	1004307
	5236	Aluminum	5U4070-00	A10014421
	5236	Molded plastic	5U3538-00	1023021
	5236	Aluminum	5U3928-07	1008813

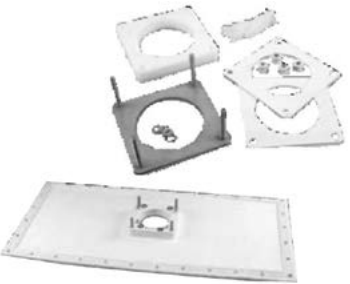
BRAIDED FLEX HOSE, PRESSURE DIFFERENTIAL MANIFOLD	Dimensions	Reference	Part Number
	2-3/8" ID x 15-5/16" L	1J3981-00	1022214
	4-1/2" ID x 11-1/2" L	2J3768-01	1022212
	5-9/16" ID x 9-1/2" L	1J3336-05	1014104


GASKET, MOUNTING FRAME	Note	Part	Weight	Part Number
		5135	4.90 lbs.	1027258
	• Cars built before 1996	5235	4.90 lbs.	1017642
	• Cars built after 1996	5235	5.45 lbs.	1018229
		5236	5.45 lbs.	1018229


HATCH COVER, 30" ALUMINUM	Description	Reference	Part Number
	<ul style="list-style-type: none"> • Durability of aluminum and light weight (17 lbs.) • No holes in body of cover • Gasket included 	7Y9913-00	1026480
HATCH COVER, 20" VENTED	Item	Reference	Part Number
	Vented Cover with Gasket	4V0737-01	1021036
	Outer Screen	3W3988-00	1018701
	Inner Screen	3W3989-00	1018702
	Hold Down Assembly	2J2896-00	1024419
	Cam Lock	2J2897-01	1024422
HATCH COVERS, 20" PLASTIC AND ALUMINUM	Description	Reference	Part Number
	<ul style="list-style-type: none"> • Plastic • Gasket included 	4U0744-04	A33236-01
	<ul style="list-style-type: none"> • Hardware Kit 	1048297	1048297
	<ul style="list-style-type: none"> • Aluminum • 3 point hold-down • Gasket included 	4E1819-00	1024288


HATCH COVER, PRESSUREAIDE®	Description	Reference	Part Number
	<ul style="list-style-type: none"> • 20" Aluminum cover with gasket 	<p>7Y9489-00</p>	<p>A10015798</p>
	<p>Hardware set includes:</p> <ul style="list-style-type: none"> • 2 Handles with car seal provision • 4 standard handles • Hinge bolt, nut & washer • Decal • 6 D-pins, bolts, nuts and washers 	<p>5Y5881-01</p>	<p>A10015799</p>

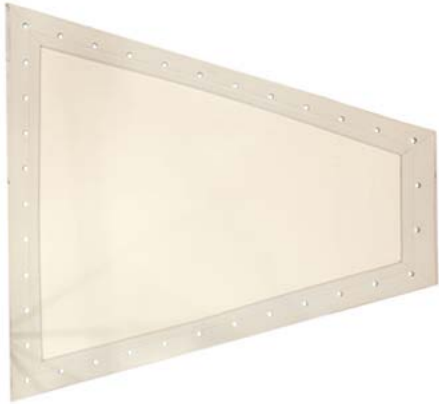
MEMBRANE	Part	Weight	Part Number
	5019	13.00 lbs.	1027268

MEMBRANE ADAPTER KIT	Part	Weight	Part Number
	5015	38.90 lbs.	1004404
	5019	38.65 lbs.	1027268

MEMBRANE, BOTTOM ADAPTER GASKET	Part	Weight	Part Number
	5015	15.10 lbs.	1027341

MEMBRANE, PRESSUREAIDE – 15 PSI	Note	Weight	Part Number
	• 1021144 is the larger membrane	12.00 lbs.	1022120
		15.50 lbs.	1021144

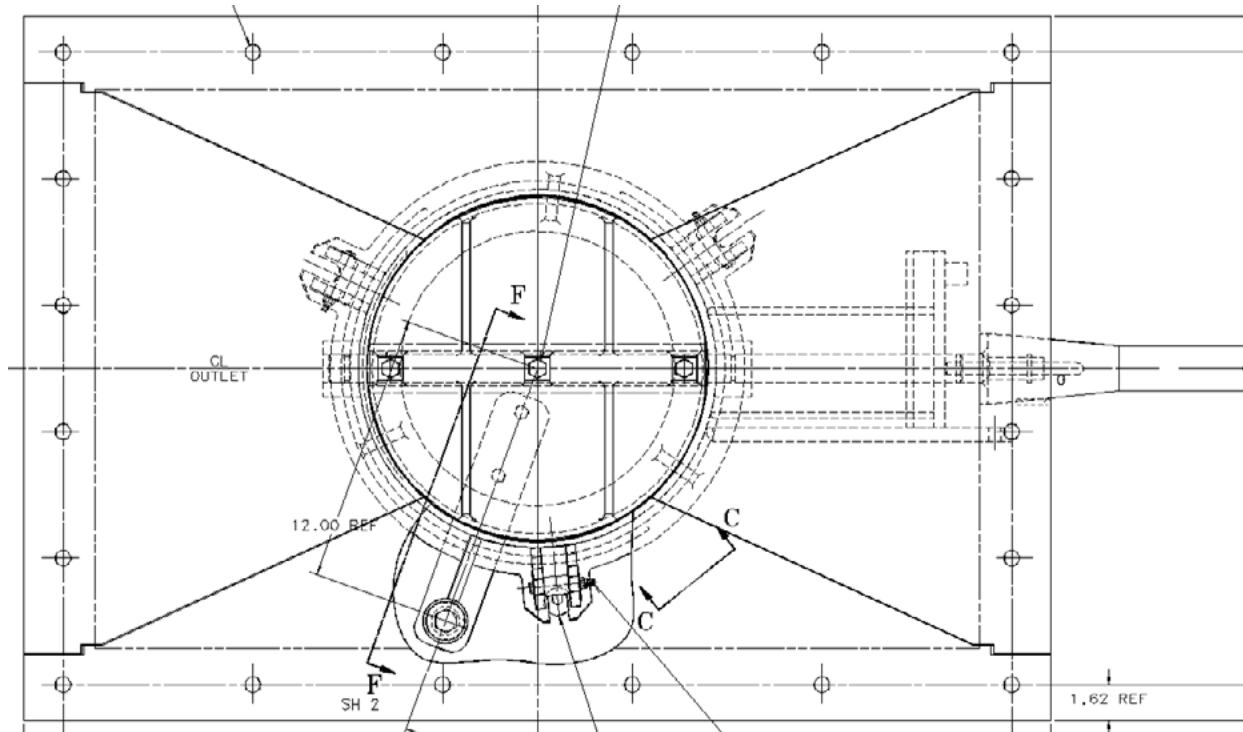
MEMBRANE, PRESSUREAIDE® – 5650N	Description	Reference	Part Number
	<ul style="list-style-type: none"> • Round membrane 	4Y4198-00	1021905
	<ul style="list-style-type: none"> • Round membrane with kevlar deflector 	4Y4198-01	A33415-01

MEMBRANE, PRESSUREAIDE® – TRAPEZOIDAL	Description		Reference	Part Number
	<ul style="list-style-type: none"> • Trapezoidal membrane (5001) • 9" x 32" x 32" 	Polypropylene felt	4J4909-00	1022256
	<ul style="list-style-type: none"> • Trapezoidal membrane (5003) • 12-1/4" x 37-3/8" x 41-1/2" 	Polypropylene felt	4K7333-00	1022120
		Polypropylene felt With kevlar deflector	4K7333-02	1020838
	<ul style="list-style-type: none"> • Trapezoidal membrane (5750) • 26" x 56" x 41" 	Polypropylene felt	4V4636-04	1021144
		Polypropylene felt with kevlar deflector	4V4636-05	1021145

OUTLET, BUTTERFLY – 5001A AND C

Description

- The 5001A and C Butterfly Outlets are designed for controlled gravity discharge of fine powders
- Specifically designed for 45-7/8" x 31-1/2" mounting frame using 20 hole bolt pattern (42-3/8" x 28-1/4")
- Side handle for easy operation

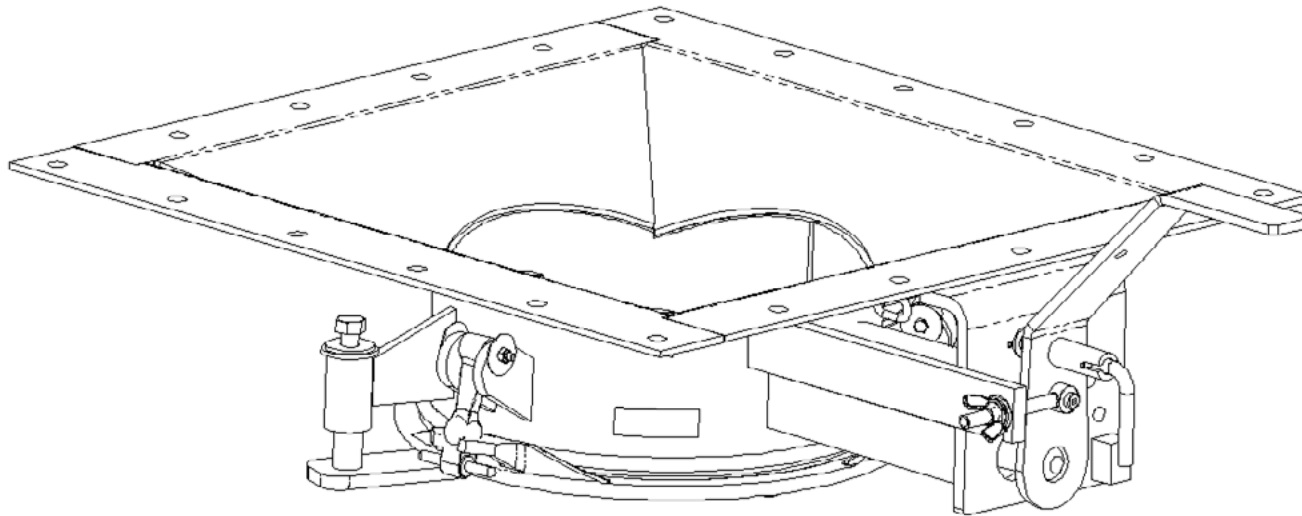


Item	Reference	Part Number
5001A Outlet	5W5785-00	1070956
5001C Outlet	5Y5484-01	1024033
Door (Cover)	67-9732-01	1024109
Handle Assembly	3W5788-00	A10014639
5001A Outlet Fabricated Pan Assembly	5W5790-01	1071012
5001C Outlet Fabricated Pan Assembly	5Y5486-01	1024034
Pivot Assembly	3W6741-00	1019016

OUTLET, BUTTERFLY – 5001D COMPACT

Description

- The 5001D Compact Butterfly Outlet is designed for controlled gravity discharge of fine powders
- Specifically designed for 32-13/16" x 32-1/2" mounting frame using 20 hole bolt pattern (30-1/4" x 30-1/4")
- Side handle for easy operation

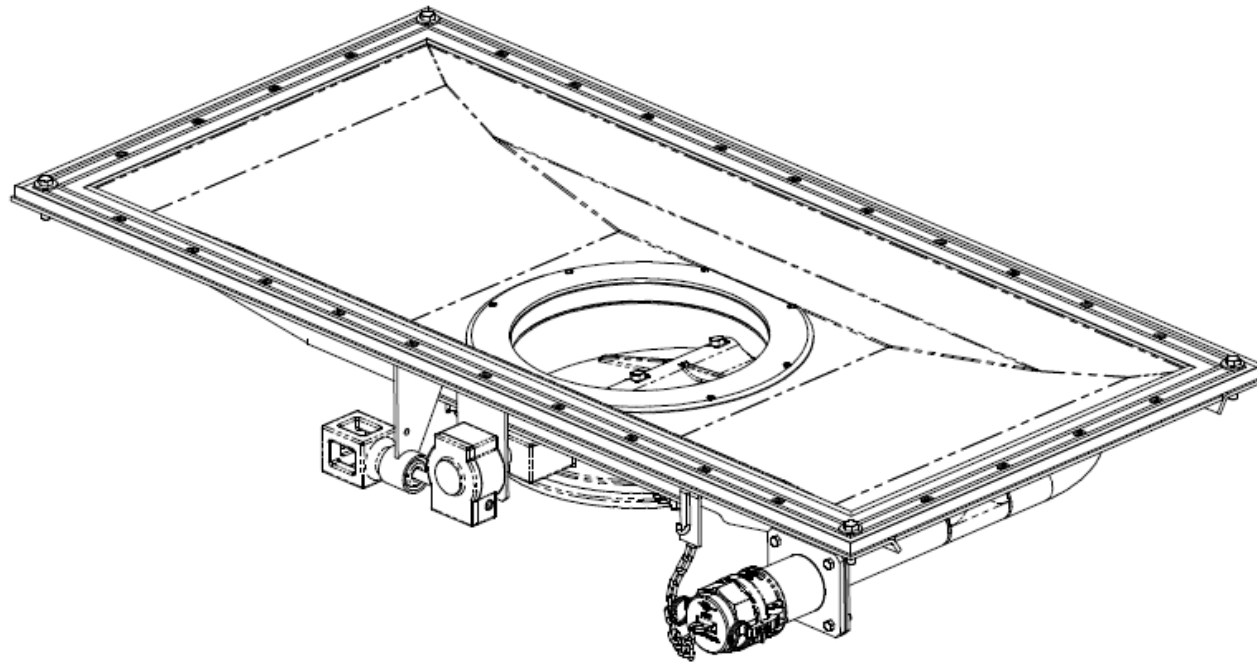


Item	Reference	Part Number
Outlet Assembly	1065949	A10017349
Door (Cover)	67-9372-01	1024109
Handle Assembly	3W5788-00	A10014639
Pan Assembly	1065369	1065369







OUTLET, BUTTERFLY – 5015 FLUIDIZED

Description

- The 5015 Fluidized Butterfly Outlet is designed for controlled gravity discharge of fine powders with fluidized assist
- Using low pressure air, powder loadings fluidize to flow as freely as liquids
- 16" cylindrical discharge port with butterfly valve controls the flow rate
- Sanitary door protects against contamination in transit



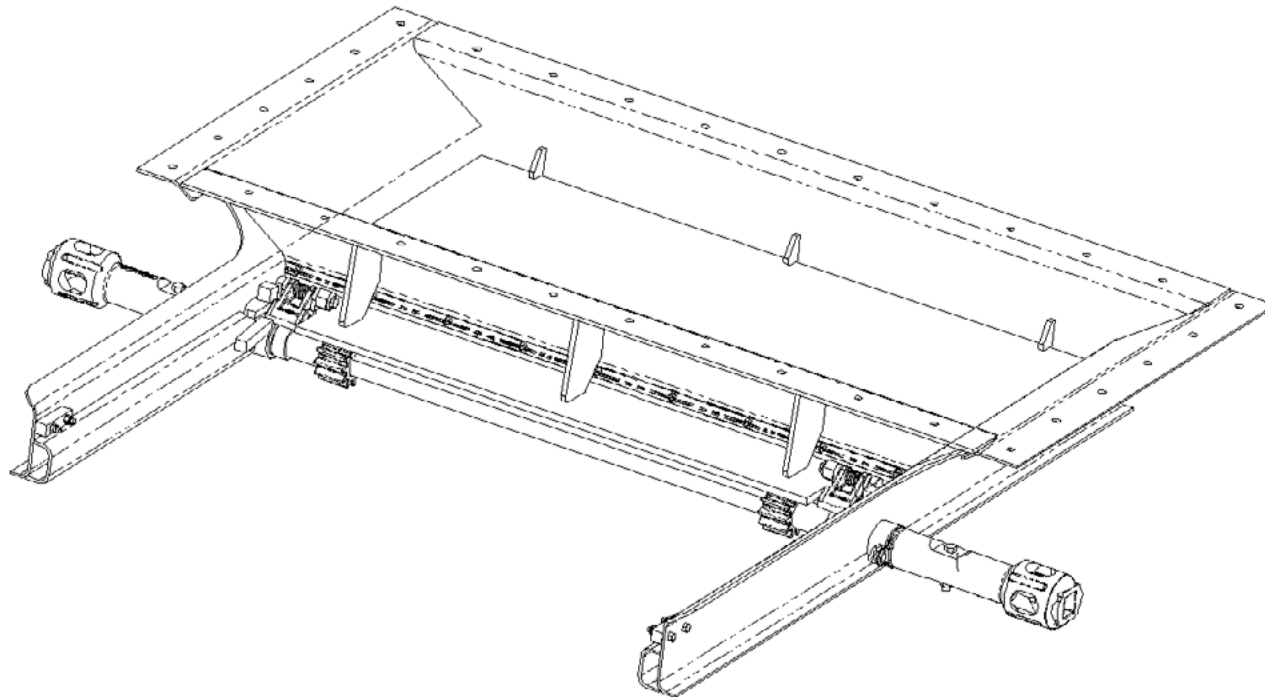
Item	Reference	Part Number
Outlet Assembly	1053090	A33259-01
Cloth Membrane Adapter Kit	1003320	1003320
Sanitary Door Assembly	3A6504-00	1004257
Pan Assembly	1049903	1049903
Capstan	3U7381-00	1017915
Gearbox	3Y0372-00	1019586
Air Inlet Assembly	4U7214-00	1020976
Membrane Retainer Assembly	4Y0843-00	1021622

OUTLET CAPS	Description		Reference	Part Number
	<ul style="list-style-type: none"> Molded cap Fits 5135, 5135AM, 5235 and 5236 series outlets 	Aluminum	5G3154-00	1022277
		Molded plastic	4K5359-00	100034418
	<ul style="list-style-type: none"> Molded plastic cap 3/8" mounting holes spaced at 120 degrees 	Molded cap with chain assembly	2J6438-04	1024433
		Aluminum cap with chain assembly	2J6438-05	1048201
	<ul style="list-style-type: none"> Molded plastic cap 3/8" mounting holes spaced at 120 degrees 	Without chain assembly	4J9292-00	1022098
		With chain assembly	2J4307-02	1024431

OUTLET, GRAVITY – 5021C

Description

- Gravity slide gate outlet with 25" x 48" opening
- Dimensions: 70-1/2" x 35-1/2" x 10"
- Fits 32 bolt mounting pattern 67-1/8" x 31-1/2"



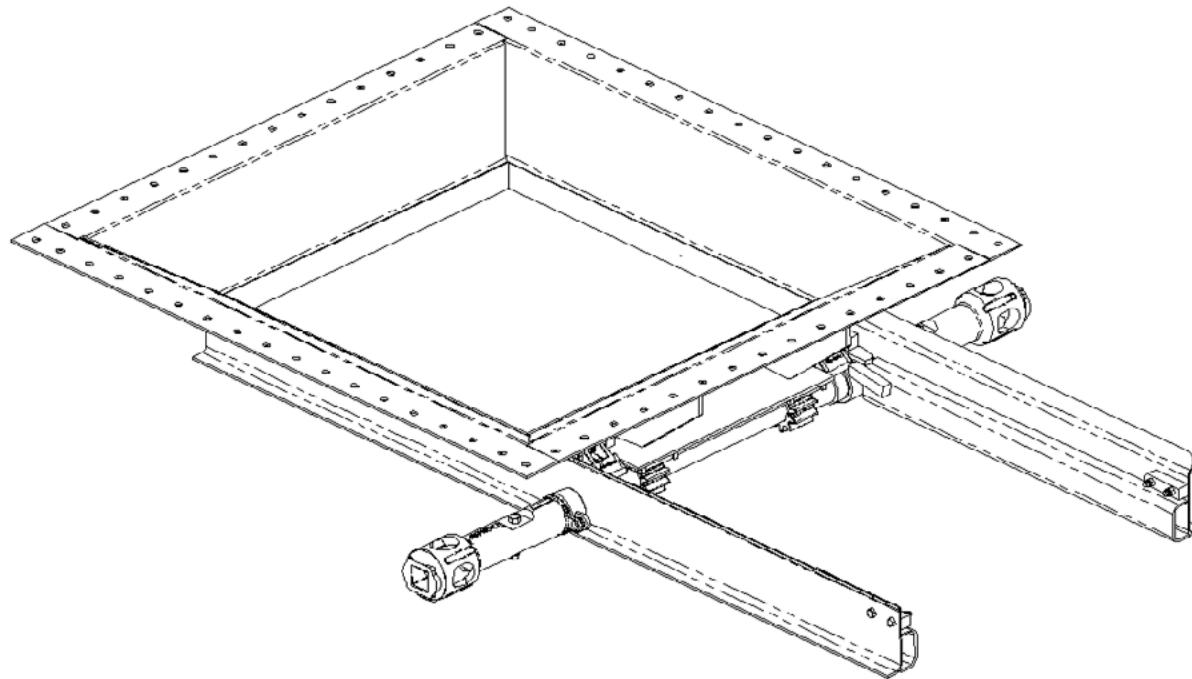
Item	Reference	Part Number
Outlet Assembly	7Y6813-02	1025046
Pan Assembly	7Y6994-01	1025163
Gate Assembly	7Y6869-01	1025106
Capstan	4U7198-00	1020975
Pinion	3U7252-00	1017912
Brush Seal	3Y4958-02	1020388
Shaft	7Y6884-00	1025113

OUTLET, GRAVITY – 5097E AND F		Item	Reference	Part Number
Description <ul style="list-style-type: none"> • Meets or exceeds all GEAPS and AAR S-233-92 performance specifications • A heavy duty outlet that features an automatic locking device and a fixed capstan • Designed with lower opening torque • Ledge-less design prevents product build-up 	Gravity Outlet – 13" x 48" opening with brush seals	5097E	7Y7355-00	1025294
	Gravity Outlet – 15" x 45" opening with UHMW Seals	5097F	1067172	1067172
	Pinion	Common Parts	3U7252-00	1017912
	Shaft		7Y6884-02	1025114
	Capstan		4U7198-00	1020975
	Gate Assembly		7Y7353-00	1025293
	Pan Assembly	5097E Parts	7Y7352-00	1025292
	Brush Seals		3Y4958-05	1055679
			3Y4958-06	1055680
	Seal Covers		7Y7362-00	1025299
			7Y7363-00	1025300
	Pan Assembly		5097F Parts	1067128
UHMW Seals	1067205	1067205		
	1067206	1067206		

OUTLET, GRAVITY – 5098D

Description

- The 5098D gravity outlet features a 31" x 29" opening
- It meets or exceeds all GEAPS and AAR S-233-92 performance specifications
- A heavy duty outlet that features an automatic locking device and a fixed capstan
- Designed with lower opening torque
- Ledge-less design prevents product build-up

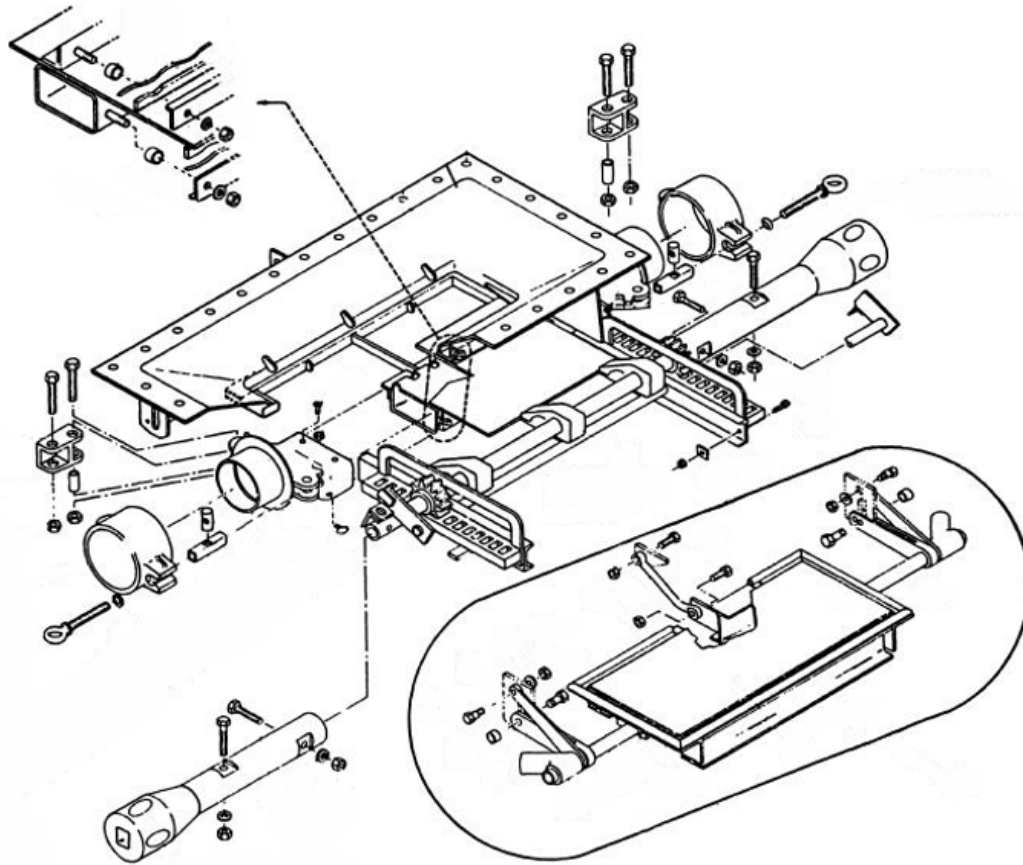


Item	Reference	Part Number
Outlet Assembly	7Y9209-00	1026169
Pinion	3U7252-00	1017912
Shaft	7Y6884-03	1025115
Capstan	4-U7198-00	1020975
UHMW Front Seal	1055274	1055274
UHMW Back Seal	1055117	1055117
UHMW Side Seal	7Y9226-00	1029077
Gate Assembly	7Y9161-00	1029073
Pan Assembly	7Y7944-00	1029062



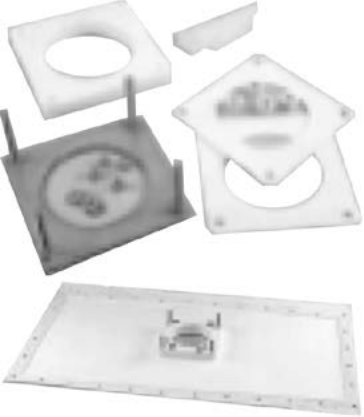
OUTLET, GRAVITY PNEUMATIC – 5124, WITH SANITARY SHIELD

Description

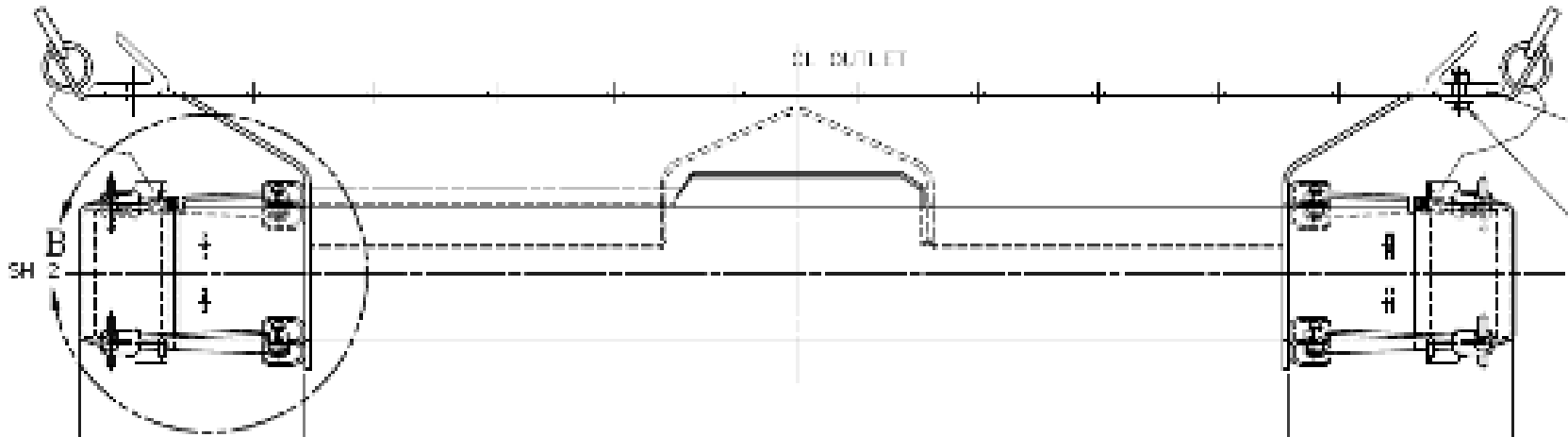
The 5124 auto-lock gravity pneumatic outlet is designed for product purity featuring unobstructed gravity discharge with the pneumatic opening outside the gravity discharge area for maximum flow rate and optimal clean-out.



	Item	Reference	Part Number
Common Parts	Cap & Nozzle Assembly	41-80492-02	1004297
	Nozzle Assembly	3C8452-00	1004281
	Plastic Cap Assembly	3V2720-00	1018158
	Sanitary Door Assembly	5F3043-00	1004275
	Capstan Assembly	31-78994-00	1022442
Carbon Steel Outlet	Outlet Assembly	5W9017-12	1023535
	Gate & Pinion Assembly	5W9018-00	1023536
	Pan Assembly	5W9533-00	1023567
304L Stainless Steel Outlet (product contact surfaces)	Outlet Assembly	5W9017-10	1023534
	Gate & Pinion Assembly	5W9018-04	1023537
	Pan Assembly	5W9534-04	1023570

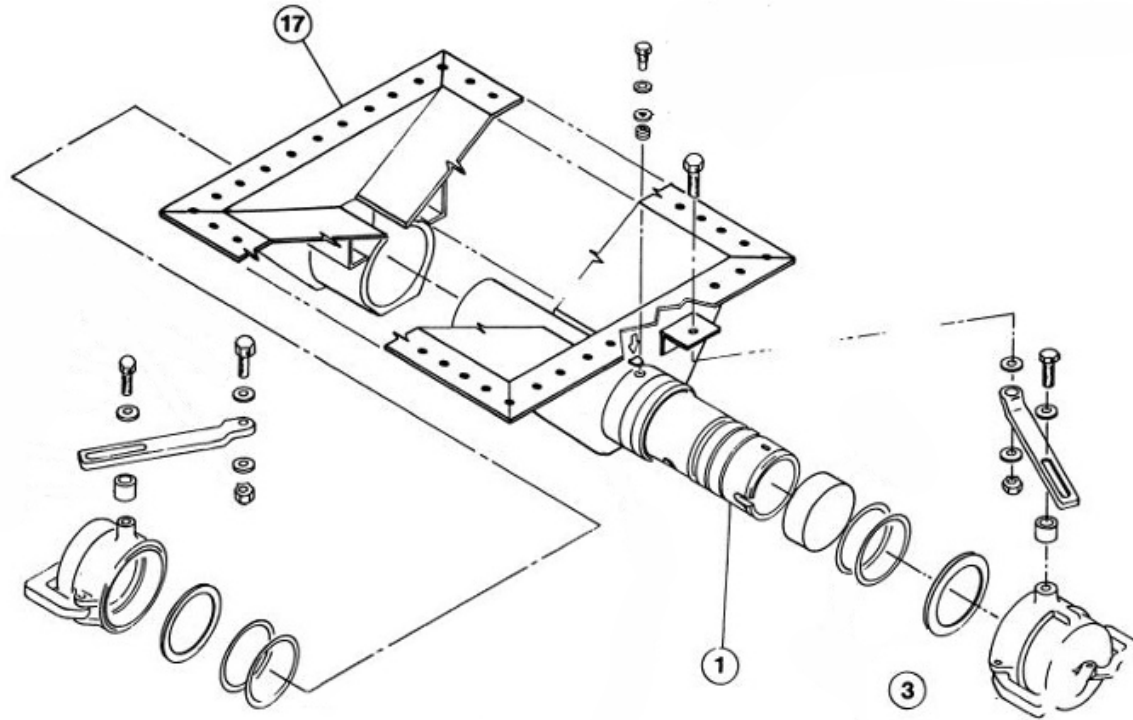
OUTLET, MEMBRANE – 5015	Description	Reference	Part Number
	<ul style="list-style-type: none"> • Cloth with gasket 	91001373	1027338
OUTLET, MEMBRANE – 5015 BOTTOM ADAPTER GASKET	Description	Reference	Part Number
	<ul style="list-style-type: none"> • Fits 5015 outlet 	91001378	1027341
OUTLET, MEMBRANE – ADAPTER KIT	Description	Reference	Part Number
	<p>Kit Includes:</p> <ul style="list-style-type: none"> • Membrane & gasket • Membrane mounting adapter • SST membrane retainer • Side adapter scuff strip • Bottom membrane gasket • Adapter o-ring seal • Latex gloves 	91001333 4Y0843-00	1004404

OUTLET, PNEUMATIC – 5129A




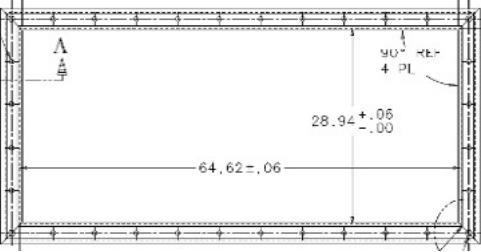
Description	Item	Reference	Part Number
<ul style="list-style-type: none"> • Standard outlet for peanut service • Dimensions: 70" x 34-3/8" x 14" deep • Fits 32 bolt mounting pattern 67-1/8" x 31-1/2" 	Outlet Assembly	5V9030-01	1053089
	Pan Assembly	5V9198-01	1053964
	Outlet Cap	4K5359-01	1053442

OUTLET, PNEUMATIC – 5230



Description	Item	Reference	Part Number
<ul style="list-style-type: none"> • Airtight – quick coupling pneumatic outlet for pressure-in-transit cars • Typically used in Nylon 6 (polycaprolactam) service 	Outlet Assembly	6J5813-01	1024428
	Control Valve (1)	6B8106-01	1022917
	Cap (3)	3J5815-00	1022236
	Pan Assembly (17)	5J5814-00	1022981

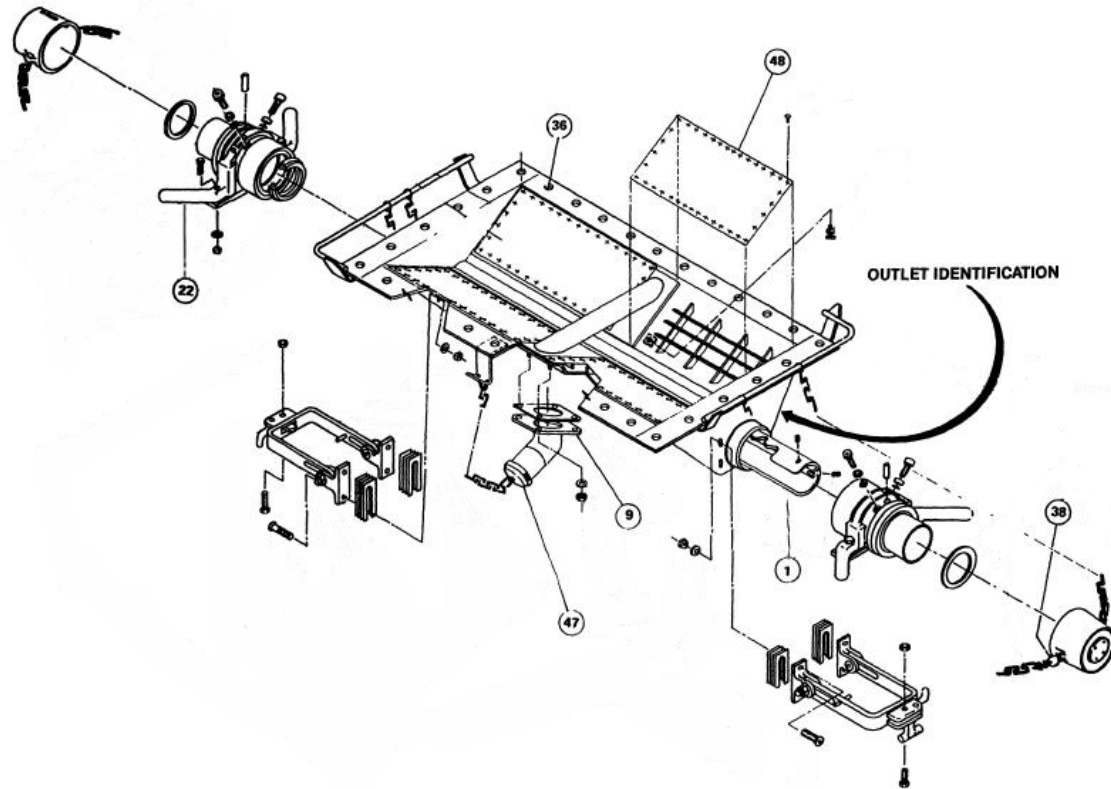
OUTLET, PNEUMATIC – 5236	Description		Adapter	Reference	Part Number
	<ul style="list-style-type: none"> • Plastic pellet outlet allows sampling without flooding the product tube • Clean-out features with removable adapters • Serrated control valve for greater flow control; and Tamper proof J-bolts 	5236J	Aluminum	5U3640-10	A10014409
		5236K	Aluminum	5U3640-08	A10016470

OUTLET, PNEUMATIC – GASKET	Fits Outlet	Reference	Part Number
	5235 (built after 1996)	3V4168-00	101445-06
	5236	3V4168-00	101445-06

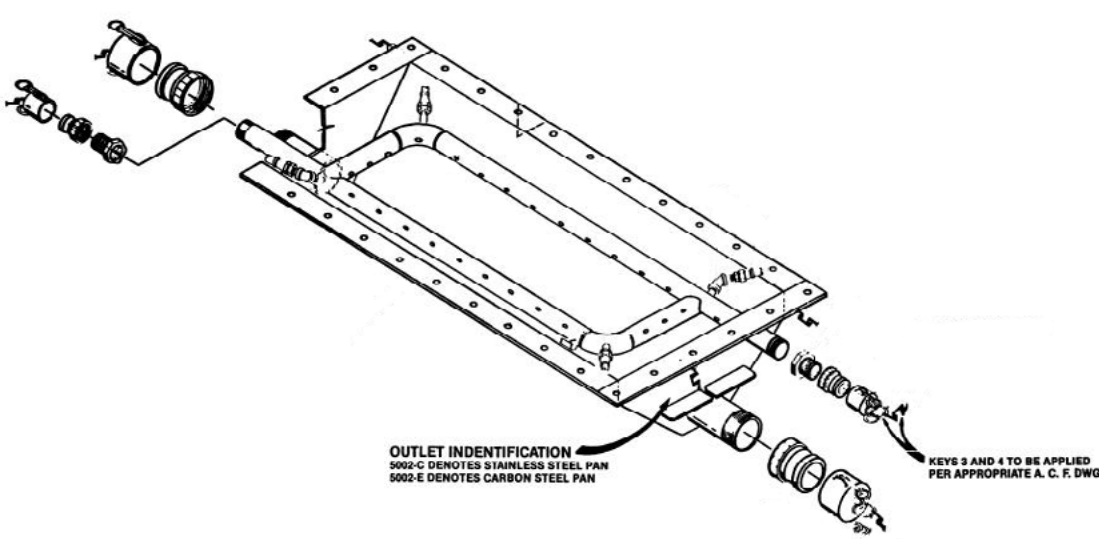
OUTLET, PNEUMATIC – 5134B FLUIDIZED

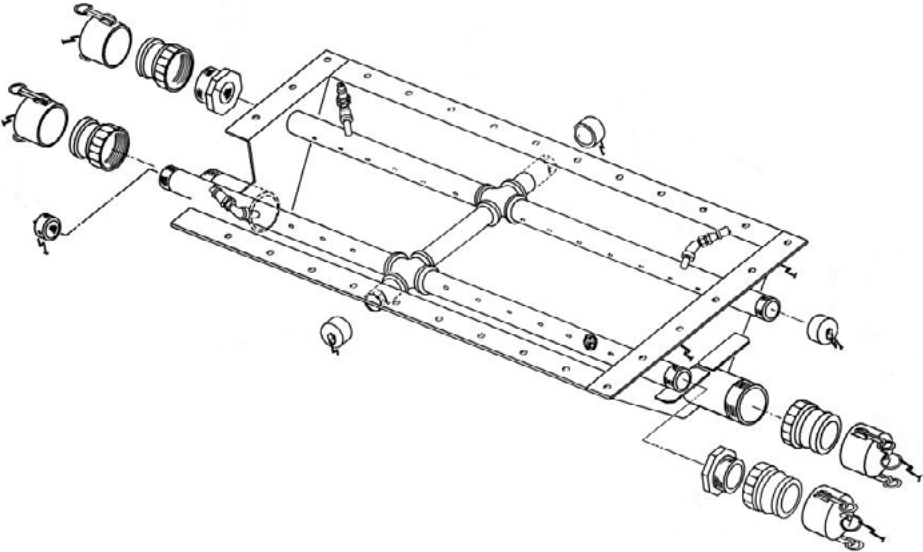
Description

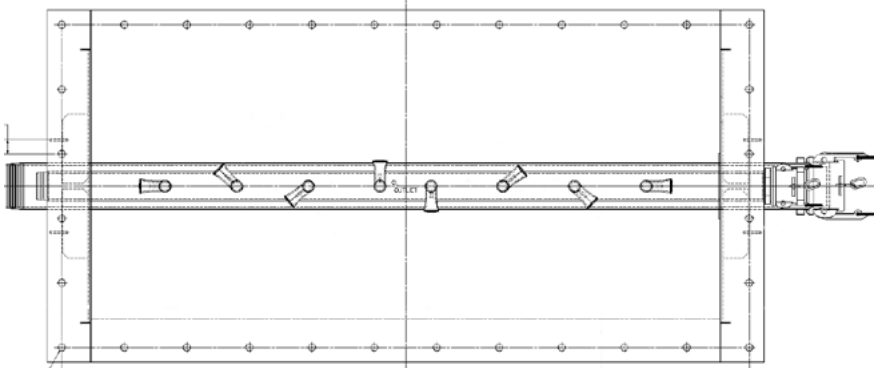
- The fluidized adjustable pneumatic 5134 outlet is designed to quickly and easily unload the tough powders that tend to bridge and column during discharge
- The system introduces low pressure air through the permeable stainless steel outlet slope sheets, fluidizing the lading so it flows freely to the outlet opening
- The outlet also offers the flexibility of unloading free flowing materials without using fluidizing air



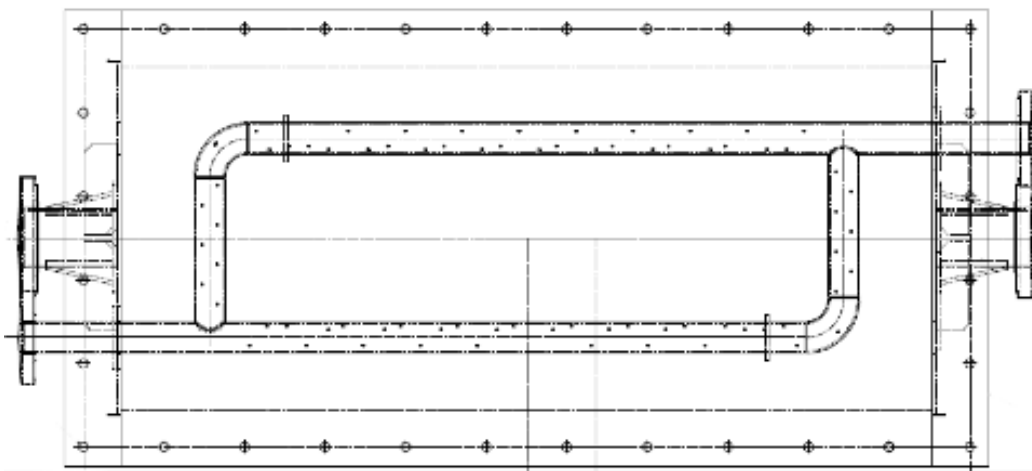
Item	Reference	Part Number
Outlet Assembly	6J8145-02	1024448
Control Valve with Insert (1)	6E1374-01	1024287
Air Inlet Assembly (9)	3G0551-00	1004284
Air Inlet Cap (47)	4K5359-00	100034418
End Adapter Assembly (22)	6H7622-03	1004295
Pan Assembly (36)	6F9133-01	1024329
Outlet Cap Assembly-3" (38)	3G7751-03	1022279
Membrane (48)	5G4753-00	1022476

OUTLET, SPARGER – 5002-A, B, C, D, E, K, M, T	Description	Item	Reference	Part Number
<p>Description</p> <ul style="list-style-type: none"> For products shipped in a dry state but offloaded in a wet state Our premier Sparger outlet is available in carbon steel or stainless, standard with threaded air inlets 	<ul style="list-style-type: none"> 304 Stainless pan 2-1/2" Air inlet 	5002A	6G8474-00	
 <p>OUTLET IDENTIFICATION 5002-C DENOTES STAINLESS STEEL PAN 5002-E DENOTES CARBON STEEL PAN</p> <p>KEYS 3 AND 4 TO BE APPLIED PER APPROPRIATE A. C. F. DWG.</p>	<ul style="list-style-type: none"> Carbon steel pan 2" Air inlet 	5002B	6G8474-01	
	<ul style="list-style-type: none"> 304 Stainless pan 2-1/2" Air inlet with risers at halo corners 	5002C	6G8474-02	1024376
	<ul style="list-style-type: none"> Carbon steel pan 2-1/2" Air inlet 	5002D	6G8474-03	
	<ul style="list-style-type: none"> Carbon steel pan 2-1/2" Air inlet with risers at halo corners 	5002E	6G8474-04	
	<ul style="list-style-type: none"> 316L Stainless pan 2-1/2" Air inlet with risers at halo corners 	5002K	6G8474-09	
	<ul style="list-style-type: none"> Carbon steel pan 2-1/2" Air inlets 	5002M	5V4024-00	1066803
	<ul style="list-style-type: none"> 316L Stainless pan 2-1/2" Air inlets with risers at halo corners plastic 2-1/2" and 4" dust caps 	5002T	6G8474-13	1024376

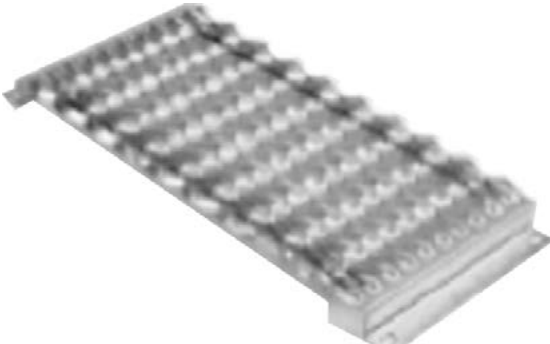
OUTLET, SPARGER – 5002H	Description	Item	Reference	Part Number
	<ul style="list-style-type: none"> • 5002 H Carbon steel pan • 2-1/2" "H" type halo • 1" risers 	Outlet Assembly	6G8474-08	6G847408


OUTLET, SPARGER – 5002R AND RD	Description	Item	Reference	Part Number
	<ul style="list-style-type: none"> • 316 Stainless steel pan • 2-1/2" straight halo • 8 – 1" risers 	5002-R	5W7593-00	A34409-01
	<ul style="list-style-type: none"> • 316 Stainless steel pan • 2-1/2" straight halo • 8 – 1" risers • 2 cleanout nozzles 	5002-RD	5W7593-01	A34409-02
	<ul style="list-style-type: none"> • Pan assembly 		6G8469-04	A34401-01


OUTLET, SPARGER – 5002 U




Description	Item	Reference	Part Number
<ul style="list-style-type: none"> • 5002 U stainless steel pan • 2-1/2" halo with riser connection • 70" length x 34-3/8" width x 13-5/16" depth • Fits 32 bolt mounting frame pattern 67-1/8" x 31-1/2" 	Outlet Assembly	1060682	1060682
	316 Stainless Steel Pan Assembly	1060719	1060719

RUNNING BOARDS, COVERED HOPPER	Description		Reference	Part Number
	Our diamond tread design features a stress relief hole at the edge of the diamond pattern that prevents running board cracks.			
	End Platform	8" W x 60.75" L	4K3890-04	1028414
	Roof Running Boards • 24.63" wide	Crossover C Board 47.25" L	4K3169-02	A21810-01
		Lateral A Board 12.38" L	3K3167-10	1017424
		Center B Board 127.13" L	4K3168-04	A21805-01
		End BSP Board 127.13" L	4K3171-03	1020744
	Roof Running Boards • 24.63" wide • With handhold mounting provision	Intermediate B-1 155.25" L	4K3799-19	1020765
		Intermediate B-1 141.75" L	4K3799-20	1020766
		Intermediate B-1 132.75" L	4K3799-21	1020767
		Intermediate B-1 95.63" L	4K3799-30	1020775
		Intermediate B-1 88.88" L	4K3799-28	1020773
		Intermediate B-1 74.25" L	4K3799-29	1020774

RUPTURE DISC ASSEMBLY	Description	Reference	Part Number
	<ul style="list-style-type: none"> Rupture disc assembly for Pressuraide® applications 	3J5612-00	1022233

RUPTURE DISC, REPLACEMENT	Description	Reference	Part Number
	<ul style="list-style-type: none"> Rupture disc for Pressuraide® applications 	2J5615-00	1022232

VIBRATOR BRACKET	Description	Reference	Part Number
	<ul style="list-style-type: none"> Cast steel vibrator bracket suitable for welding directly to hopper side slope sheets. 	4K8592-00	1022131

Tank Car

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General Freight Railcar


Covered Hopper


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Multi-Max™ Auto Rack

Cushioning Units




CAP, PLUG AND CHAIN ASSEMBLY	Description	Reference	Part Number
	<ul style="list-style-type: none"> • 4" outlet cap • 2" plug & chain • Carbon steel 	4Y0572-00	A10013892
	<ul style="list-style-type: none"> • 4" outlet cap • 2" plug & chain • 316 stainless steel 	4Y0572-05	1021613


EXTENSION ASSEMBLY, 4" BOTTOM OUTLET VALVES	Description	Material	Reference	Part Number
	<ul style="list-style-type: none"> • Extensions have (4) 11/16" diameter holes on 9" bolt circles 	Carbon steel	3V8544-01	1018456
		304 Stainless steel	3J8459-01	1056081
		316 Stainless steel	3U0569-03	1017567




LIFT ASSIST KITS	Item	Reference	Part Number
	Top Unloading Housing Kit	1037989	1037989
	Manway Cover Kit 6 Bolt-20"	1048327	1048327


MANWAY COVER	Item	Material	Reference	Part Number
	8 Bolt – 20" diameter	Cast carbon steel	5W8772-00	1023508
		Cast stainless steel	3Y4225-03	1020288
	8 Bolt – 20" dia with lift assist	Cast carbon steel	3Y4225-00	1020287
	6 Bolt – 20" diameter	Cast carbon steel	5U5231-09	1023051
		Cast stainless steel	5U5231-02	1023050


MANWAY COVER BOLT	Note	Item	Material	Eye Size	Weight	Part Number
	<ul style="list-style-type: none"> • Hinge and Seal bolts are also offered in stainless steel • Nuts (square or hex) are sold separately and are available in carbon or stainless steel 	Hinge Bolt	Carbon steel	13/16"	2.00 lbs.	1018476
		Hinge Bolt	Carbon steel	1-1/16"	1.95 lbs.	1018477
		Seal Bolt w/Nut (Square) & Ferrule	Carbon steel	13/16"	2.05 lbs.	1024295
		Seal Bolt w/Nut (Hex) & Ferrule	Carbon steel	13/16"	2.00 lbs.	1014235
		Seal Bolt w/Nut (Square) & Ferrule	Carbon steel	1-1/16"	2.05 lbs.	1014231
		Seal Bolt w/Nut (Hex) & Ferrule	Carbon steel	1-1/16"	2.45 lbs.	1014233


MANWAY COVER HINGE BOLTS		Item	Material	Eye Size	Reference	Part Number
	Hinge Bolt	Carbon steel	13/16"	3V9009-02	1018476	
			1-1/16"	3V9009-08	1018477	
	Hinge Bolt Hardware Kit (eyebolt, washer, hex nut)	Carbon steel	1-1/16"	—	1011372	
	Seal Bolt w/ Hex Nut & Ferrule	Carbon steel	13/16"	2E3083-06	1014235	
			1-1/16"	2E3083-04	1014233	
		Seal Bolt w/ Square Nut & Ferrule	Carbon steel	13/16"	2E3083-00	1024295
Heavy Hex Nut		7/8"		91002109	1027356	
Plain Washer		7/8"		91005432	1027581	


VALVE, BOTTOM OUTLET – 2020		Description	Reference	Part Number
	<ul style="list-style-type: none"> • S2020-01 • 3" Full Throat Ball Valve • 3-11/16" low profile • Stainless steel body and trim 	6U1577-01	1024498	


VALVE, BOTTOM OUTLET – 2040		Item	Description	Steam Connections	Reference	Part Number
	CS Body, SS Trim	<ul style="list-style-type: none"> • Low profile • 4" full port ball valve 	Yes, with plugs	5Y0689-04	1023664	
	CS Body, SS Trim		Yes, no plugs	5Y0689-00	1023662	
	SS Body, SS Trim		Yes, no plugs	5Y0689-01	1023663	
	Valve Rebuild Kit		—	51000138	1022488	
	SS Ball			4U3493-00	1020928	
	CS Cover			4U1879-00	1020896	
	SS Cover			4U1879-01	1020897	


VALVE, EXCESS FLOW		Description	Reference	Part Number
	<ul style="list-style-type: none"> • Monel alloy R-405 • Body ID: 1.36" • Body ID: 1.215" • 3/4" diameter ball • 5-7/8" body length with 1-1/4" 11-1/2 NPT threads on both ends • Valve is 7-1/4" long with seat 	2C1873-00	1024192	
		2C1873-01	1024193	

VALVE, SAFETY RELIEF – 1108	Description	Item	O-Ring	Reference	Part Number
	<ul style="list-style-type: none"> • 75 psi set pressure • 1,044 SCFM @ 85 psi • Tongue & groove gasket mount 	CS Body – SS Trim	Viton GF-S	4K8048-26	1020850
			Nitrile 70	4K8048-00	1024471
		SS Body – SS Trim	Food Grade Nitrile 70	4K8048-17	1020847
			Viton A	4K8048-05	1020844
			Nitrile 70	4K8048-01	1035184
			BUNA-N	4K8048-16	1024474

VALVE, SAFETY RELIEF – HP 1108, HIGH PRESSURE	Description	Item	O-Ring	Reference	Part Number
	<ul style="list-style-type: none"> • 280 psi set pressure • 3,374 SCFM @ 306 psi • CS Body, SS Trim • Tongue & groove gasket mount 	Model D	Nitrile 70	4V2075-00	1021071
			Viton A	4V2075-04	1021072
	<ul style="list-style-type: none"> • 247.5 psi set pressure • 2,896 SCFM @ 270 psi • CS Body, SS Trim • Tongue & groove gasket mount 	Model B	Viton B	1070454	1070454

VALVE, SAFETY RELIEF – 1128	Description	Note	Part	Weight	Part Number
	<ul style="list-style-type: none"> without bee screen 	<ul style="list-style-type: none"> Other rings available upon request. 	1128	83.00 lbs.	1034965
	<ul style="list-style-type: none"> without bee screen 		S1128	83.00 lbs.	1038114

VALVE, SAFETY RELIEF – 1148	Description		O-Ring	Reference	Part Number	
	<ul style="list-style-type: none"> 75 psi set pressure 20,605 SCFM @ 85 psi Flat face Gasket mount 	CS Body, SS Trim	1148	Viton A	4U4722-10	1020940
			1148	Nitrile FDA	4U4722-09	1020939
			1148	Simriz CS 7295	4U4722-14	1020942
		SS Body, SS Trim	Spring	—	2U4720-00	1014850

VALVE, VACUUM RELIEF	Description	Material	PSI	O-Ring	Reference	Part Number	
 <p><small>Patent Pending</small></p>	<ul style="list-style-type: none"> • 1626 Vacuum relief • 1-1/2" – 11-1/2 NPT 	Carbon steel	3 psi neg pressure	Buna-N FDA	4Y2532-01	1061308	
			3/4 – 1-1/2 psi neg pressure	Buna-N FDA	4Y2532-05	1021774	
			3/4 – 1-1/2 psi neg pressure	EPDM, 50 Durometer	4Y2532-08	1021776	
			Stainless	3 psi neg pressure	Viton A	4Y2532-07	1021775
	<ul style="list-style-type: none"> • 1626A Vacuum relief • 2-1/2" – 8 NPT 	Carbon steel	3/4 – 1-1/2 psi neg pressure	Viton B	4Y2535-11	1055172	
		Stainless	3 psi neg pressure	Viton GF-S	4Y2535-06	1021780	
			3 psi neg pressure	Buna-N FDA	4Y2535-01	1021778	
			3/4 – 1-1/2 psi neg pressure	Buna-N FDA	4Y2535-05	1021779	
	<ul style="list-style-type: none"> • S1626F Vacuum relief • Flanged • 4 x 0.62" holes on 3.88" bolt circle 	Stainless	3 psi neg pressure	Buna-N FDA	4Y2187-01	1021738	

Multi-Max™ Railcar



THE
GREENBRIER
COMPANIES

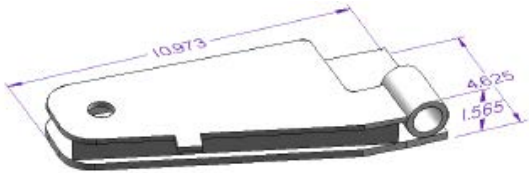
☰ General Freight Railcar

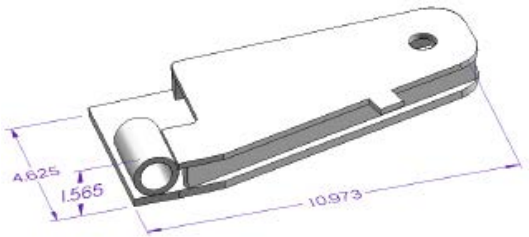
Covered Hopper

Tank Car

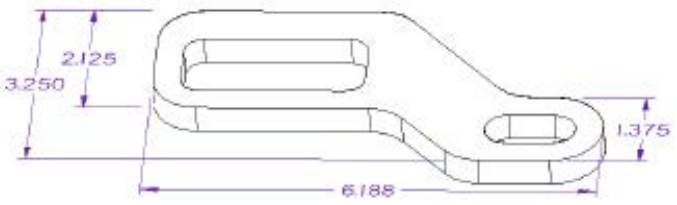
Multi-Max™ Auto Rack

Cushioning Units

BRIDGE PLATE ROTATOR, BL/AR	Description	Weight	Part Number
	Galvanized	6.05 lbs.	A10002661

BRIDGE PLATE ROTATOR, BR/AL	Description	Weight	Part Number
	Galvanized	6.05 lbs.	A10002660

CAULKING	Description	Part Number
Picture Not Available	<ul style="list-style-type: none"> • 3M 550 SCOTCH-SEAL • Polyurethane adhesive sealant 	531000050

CENTER HASP	PL	ASTM	Weight	Part Number
	3/8 x 3-1/4 x 6-3/16	A36	0.74 lbs.	100010850

CHAIN, 5/0 COIL 15	Description	Part Number
Picture Not Available	<ul style="list-style-type: none"> • 15-3/16 +/-3/4 long (10 links) • Zinc (none) • Used on road numbers 690000-690548 	121370-02

CHAIN, 5/0 COIL 48	Description	Part Number
Picture Not Available	<ul style="list-style-type: none"> • 3/8 +/-3/4 long (32 links) • Zinc (none) • Used on road numbers 690549-692933 	121370-04

CLEVIS PIN	Description	Weight	Part Number
	<ul style="list-style-type: none"> • 3/4 x 2-1/2 	0.35 lbs.	671849-07

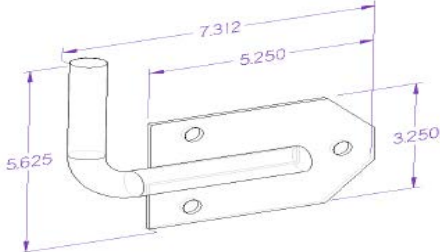
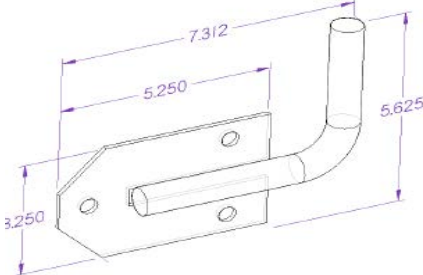
DECK HINGE, MULTI-MAX	Weight	Part Number
	2.43 lbs.	A10001631

DECK LIFT SPRING	Description	Weight	Part Number
	<ul style="list-style-type: none"> ZEFTEK ZT-726-06 Use in place of 100008391 	56.93 lbs.	100014660

DECK LOCK GUSSET	Note	Weight	Part Number
	<ul style="list-style-type: none"> Use in place of 100008237 	0.49 lbs.	100010519

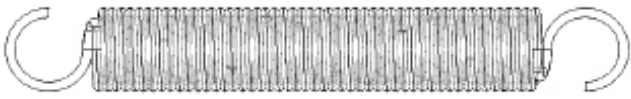
DOOR CHAIN DOOR ANCHOR	Description	PL	ASTM	Weight	Part Number
	<ul style="list-style-type: none"> Used on road numbers 690500-692933 	1/4 x 3 x 3-3/4	A36 W/0.2% CU	0.57 lbs.	100010245

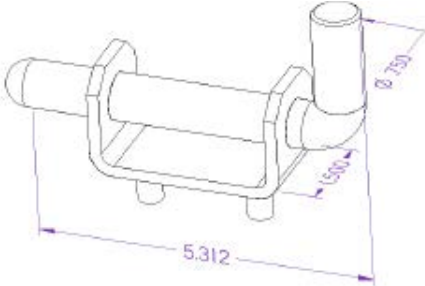
DOOR PIN ASSEMBLY	Weight	Part Number
	1.20 lbs.	A26606-01

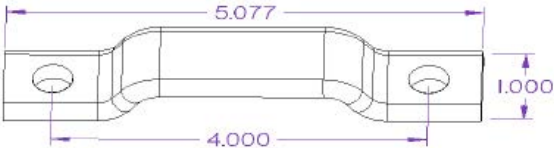
DOOR STOP BL/AR	Description	Weight	Part Number
	<ul style="list-style-type: none"> • Used on road numbers 690000-692933 	1.56 lbs.	A14799-02
DOOR STOP BR/AL	Description	Weight	Part Number
	<ul style="list-style-type: none"> • Used on road numbers 690000-692933 	1.56 lbs.	A14799-01
DOOR STRAP	Description	Weight	Part Number
<p>Picture Not Available</p>	<ul style="list-style-type: none"> • 3000 lb minimum breaking strength • Used on road numbers 690000-690548 • See also 100010463 	49 lbs.	100008419
DOOR STRAP	Description	Weight	Part Number
<p>Picture Not Available</p>	<ul style="list-style-type: none"> • Blue • 3000 lb minimum breaking strength • Used on road numbers 690549-onward • See also 100008419 	0.3 lbs.	100010463

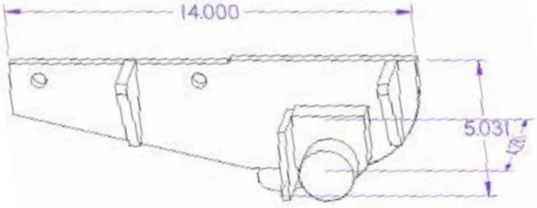
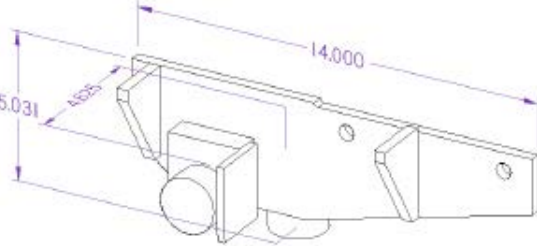
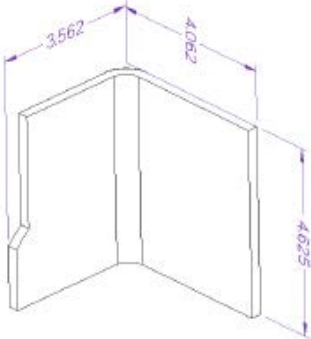
HANDLE	Description	ASTM	Weight	Part Number
	<ul style="list-style-type: none"> • 6-1/2 x 1-7/8 Galv 	A36	0.65 lbs.	121351-00
LATCH SPRING RIGHT	Description	ASTM	Weight	Part Number
	<ul style="list-style-type: none"> • Used on road numbers 690000-692933 	A313 TYPE 30	0.04 lbs.	101749-01
LOCK PIN	Note	Weight	Part Number	
	<ul style="list-style-type: none"> • Use in place of A10002205 	2.51 lbs.	100013804	

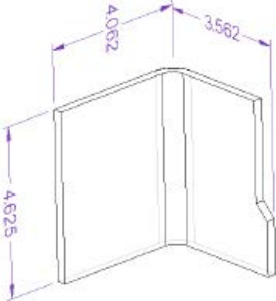

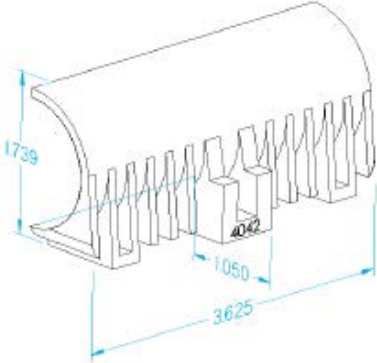
PAINT, YELLOW	Description	Part Number
Picture Not Available	<ul style="list-style-type: none"> • Paint, yellow reflective • See also 521000287 	521000316

SPRING EXTENSION FOR DOOR	Description	Part Number
	<ul style="list-style-type: none"> • Zinc, extension, 2" od • 14" long, 0.207 wire dia., 8.4#/in. • Used on road numbers 690000-692933 	161122-00

SPRING LATCH PIN	Description	Weight	Part Number
	<ul style="list-style-type: none"> • PANELOC 784 • Zinc • Used on road numbers 692934-onward 	1.34 lbs.	100011273

STRAP KEEPER	Description	FB	ASTM	Weight	Part Number
	<ul style="list-style-type: none"> • All edges rounded 0.125 • Request drawing before ordering 	1/4 x 1 x 5-1/4	A276 T304 LCBR 1T	0.35 lbs.	100009588

BOTTOM ROLLER LEFT HAND, MULTI-MAX	Description	Weight	Part Number		
	<ul style="list-style-type: none"> Used for conversion from tri-bi 	9.97 lbs.	A14745-02		
BOTTOM ROLLER RIGHT HAND, MULTI-MAX	Description	Weight	Part Number		
	<ul style="list-style-type: none"> Used for conversion from tri-bi 	9.97 lbs.	A14745-01		
BRACKET, BL/AR LOWER KEEPER	Description	PL	ASTM	Weight	Part Number
	<ul style="list-style-type: none"> Not preferred for replacement (used on road numbers 690000-690599) See Lockrod Rework Instructions.pdf 	1/4 x 4-5/8 x 7-3/32	A36 W/0.2% CU	2.25 lbs.	101766-01

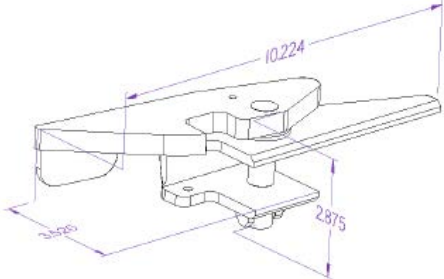
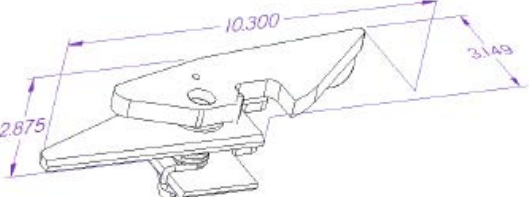
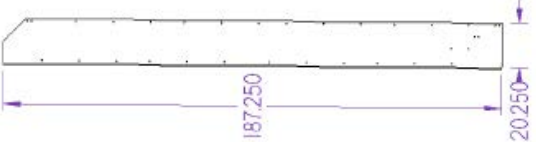
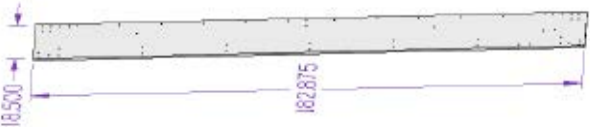
BRACKET, BR/AL LOWER KEEPER	Description	PL	ASTM	Weight	Part Number
	<ul style="list-style-type: none"> • Not preferred for replacement (used on road numbers 690000-690599) • See Lockrod Rework Instructions.pdf 	1/4 x 4-5/8 x 7-3/32	A36 W/0.2% CU	2.25 lbs.	101766-02
BREAK PAN	HRS	ASTM	Weight	Part Number	
	0.1196 x 31-15/16 x 24-15/16	1011 SS GR40 W/0.2% CU	27.63 lbs.	100008785	
BUSHINGS, GUIDE PL	Description	Weight	Part Number		
	Anti-seize	0.38 lbs.	121347-00		


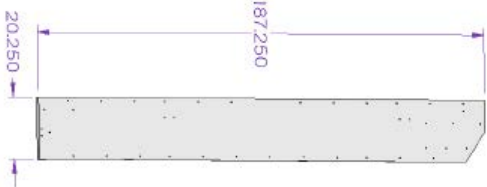
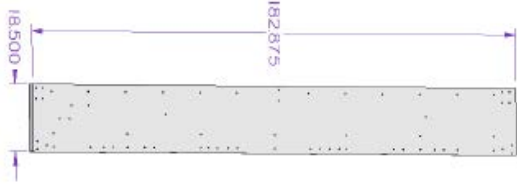

BUSHINGS, ROD GUIDE	Description	Part Number
	<ul style="list-style-type: none"> • Anti-seize • Half bushing 	121346-00

DECK HOLD TOOL	Description	Weight	Part Number
	<ul style="list-style-type: none"> • Used for conversion from tri-bi (only needed on 694034-onward) 	8 lbs.	100016808

DECK LIFT SPRING	Note	Weight	Part Number
	<ul style="list-style-type: none"> • **superseded ** use 100014660 	19.75 lbs.	100008391

DECK LOCK GUSSET	Note	PL	ASTM	Weight	Part Number
	<ul style="list-style-type: none"> • ** superseded ** use 100010519 	1/4 x 2-1/4 x 3-7/8	A572 GR50 W/0.2% CU	0.41 lbs.	100008237

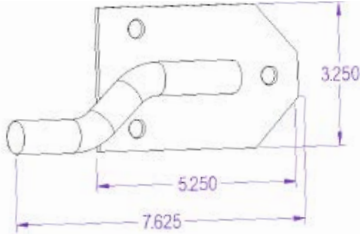
DOOR LATCH ASSEMBLY, BL/AR	Description	Weight	Part Number
	<ul style="list-style-type: none"> • Used on road numbers 690000-692933 	3.44 lbs.	A14659-02
DOOR LATCH ASSEMBLY, BR/AL	Description	Weight	Part Number
	<ul style="list-style-type: none"> • Used on road numbers 690000-692933 	3.44 lbs.	A14659-01
DOOR PANEL, P#2	Description	Weight	Part Number
	<ul style="list-style-type: none"> • Multi-Max II • Plastic • Request drawing before ordering 	73.01 lbs.	100010910
DOOR PANEL, P#3	Description	Weight	Part Number
	<ul style="list-style-type: none"> • Multi-Max II • Plastic • Request drawing before ordering 	65.82 lbs.	100010909

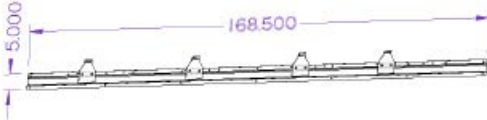
DOOR PANEL, CENTER	Description	Weight	Part Number
	<ul style="list-style-type: none"> • Multi-Max • FRP (fiberglass laminated) balsa core • Request drawing before ordering 	65.78 lbs.	100010266
DOOR PANEL, MIDDLE, MULTI-MAX	Description	Weight	Part Number
	<ul style="list-style-type: none"> • Multi-Max • FRP (fiberglass laminated) balsa core • Request drawing before ordering 	72.99 lbs.	100007761
DOOR PANEL, CENTER, MULTI-MAX	Description	Weight	Part Number
	<ul style="list-style-type: none"> • FRP (fiberglass laminated) balsa core • Request drawing before ordering 	65.78 lbs.	100007762
DOOR PANEL, END, MULTI-MAX	Description	Weight	Part Number
	<ul style="list-style-type: none"> • Wood • 3/4 x 15-1/2 x 177-3/4 • Request drawing before ordering 	51.07 lbs.	100007782

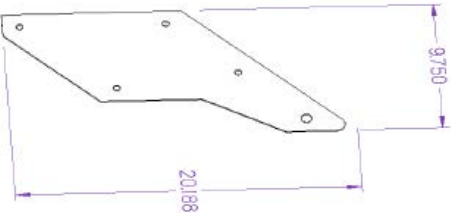
DOOR PIN ASSEMBLY	Note	Weight	Part Number
	<ul style="list-style-type: none"> Request drawing before ordering 	5.41 lbs.	A15147-01

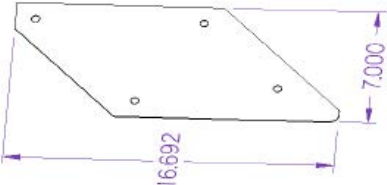
DOOR PIN ASSEMBLY	Note	Weight	Part Number
	<ul style="list-style-type: none"> Request drawing before ordering 	5.41 lbs.	A15147-02

DOOR PIN, LEFT OFFSET	Description	Weight	Part Number
	<ul style="list-style-type: none"> Used on road numbers 690000-692933X 	1.25 lbs.	A14960-02

DOOR PIN, RIGHT OFFSET	Description	Weight	Part Number
	<ul style="list-style-type: none"> Used on road numbers 690000-692933 	1.25 lbs.	A14960-01

DOOR STIFFENER ASSEMBLY	Note	Weight	Part Number
	<ul style="list-style-type: none"> Request drawing before ordering 	28.31 lbs.	A10001901

END PANEL INNER	Note	SHT	ASTM	Weight	Part Number
	<ul style="list-style-type: none"> Request drawing before ordering 	0.SHT 0.0747 x 9-3/4 x 19-15/32	A1011 HSLAS-F GR80, 100KSI MIN TENSILE	1.99 lbs.	100009099

END PANEL INNER	Note	SHT	ASTM	Weight	Part Number
	<ul style="list-style-type: none"> Request drawing before ordering 	0.0747 x 7 x 16-3/4	A1011 SS GR40 W/0.2% CU	1.78 lbs.	100010279

END PANEL, BL/AR	Description	PL	ASTM	Weight	Part Number
	<ul style="list-style-type: none"> Used on road numbers 690000-692933 	1/4 x 9-3/4 x 19-11/16	A572 GR50 W/0.2% CU	9.03 lbs.	101955-02

END PANEL, BR/AL	Description	PL	ASTM	Weight	Part Number
	<ul style="list-style-type: none"> Used on road numbers 690000-692933 	1/4 x 9-3/4 x 19-11/16	A572 GR50 W/0.2% CU	9.02 lbs.	101955-01

END SIDE SHEET, BR/AL	SHT	ASTM	Weight	Part Number
	0.1196 x 49-11/16 x 157-3/16	A1011 SS GR50 W/0.2% CU	266.19 lbs.	101801-02

END SIDE SHEET WITH CUTOUT BL	SHT	ASTM	Weight	Part Number
	0.1196 x 49-11/16 x 157-3/16	A1011 SS GR50 W/0.2% CU	240.52 lbs.	101801-03

FRONT PANEL STOP	Note	PL	ASTM	Weight	Part Number
	<ul style="list-style-type: none"> Request drawing before ordering 	1/4 x 3 x 7-1/4	A572 GR50 W/0.2% CU	1.50 lbs.	100009172

GUIDE PLATE	Weight	Part Number
	1.52 lbs.	121339-00

GUSSETT	Description	PL	ASTM	Weight	Part Number
	<ul style="list-style-type: none"> 1/4 x 4-1/4 x 4-1/4 Request drawing before ordering 	1/4 x 4-1/2 x 4-1/2	A36 W/0.2% CU	0.69 lbs.	100010282

HINGE, CONTINUOUS	Description	Weight	Part Number
	<ul style="list-style-type: none"> 304 Stainless 0.120 x 6 x 72, 3/8 dia pin Request drawing before ordering 	26.48 lbs.	102187-00

HINGE, CONTINUOUS	Description	Weight	Part Number
	<ul style="list-style-type: none"> • Cad/zinc pltd • 0.120 x 6 x 72 • 3/8 dia brass pin • Request drawing before ordering 	25.87 lbs.	121366-00
HINGE, CONTINUOUS, UNEQUAL LEG	Description	Weight	Part Number
	<ul style="list-style-type: none"> • 304 Stainless • 0.120 x 5 x 72, 3/8 dia pin • Request drawing before ordering 	18.00 lbs.	102186-00
HINGE, CONTINUOUS, UNEQUAL LEG	Description	Weight	Part Number
	<ul style="list-style-type: none"> • Cad/zinc pltd • 0.120 x 5 x 72, 3/8 dia brass pin • Request drawing before ordering 	18.00 lbs.	101796-00
KEEPER, LOWER	Weight	Part Number	
	0.99 lbs.	121343-00	

KEEPER, UPPER LEVER LH	Weight	Part Number
	0.54 lbs.	121342-00

KEEPER, UPPER LEVER RH	Weight	Part Number
	0.54 lbs.	121341-00

LADDER ASSEMBLY, BL/AR	Note	Weight	Part Number
	<ul style="list-style-type: none"> Request drawing before ordering 	124.43 lbs.	A10001715

LADDER ASSEMBLY, BR/AL	Note	Weight	Part Number
	<ul style="list-style-type: none"> Request drawing before ordering 	124.43 lbs.	A10001543

LADDER ASSEMBLY, BL/AR	Note	Weight	Part Number
	<ul style="list-style-type: none"> Request drawing before ordering 	126.19 lbs.	A10002289

LADDER ASSEMBLY, BR/AL	Note	Weight	Part Number
	<ul style="list-style-type: none"> Request drawing before ordering 	126.19 lbs.	A10002281

LADDER ASSEMBLY, MULTI-MAX	Description	Weight	Part Number
	<ul style="list-style-type: none"> 16 wide x 18 deep sill step Used on road numbers 690000-692133 	61.18 lbs.	A10001676

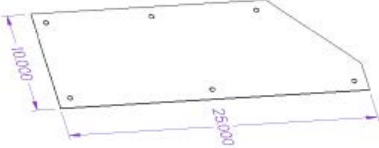
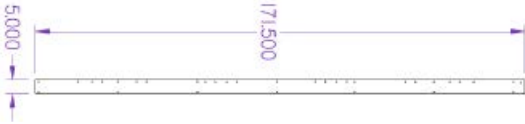
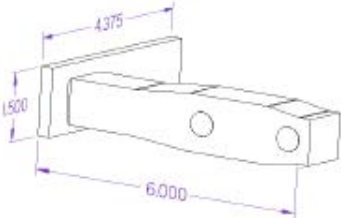
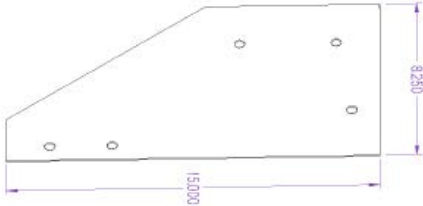
LADDER ASSEMBLY, MULTI-MAX	Description	Weight	Part Number
	<ul style="list-style-type: none"> 16 wide x 18 deep sill step Used on road numbers 692134-onward 	57.55 lbs.	A10002628

LATCH HOOK ASSEMBLY LEFT	Description	Weight	Part Number
	<ul style="list-style-type: none"> Used on road numbers 690000-692933 	1.79 lbs.	A14663-02

LOCK ROD ASSEMBLY, BL/AR (HV-SH)	Note	Weight	Part Number
	<ul style="list-style-type: none"> Request drawing before ordering 	27.6 lbs.	A15330-01

LOCK ROD ASSEMBLY, BR/AL (HV-SH)	Note	Weight	Part Number
	<ul style="list-style-type: none"> Request drawing before ordering 	27.6 lbs.	A15330-02

LOWER KEEPER BRACE	Description	PL	ASTM	Weight	Part Number
	<ul style="list-style-type: none"> Used on road numbers 690000-690599 	3/8 x 2 x 4-9/16	A36 W/0.2% CU	0.65 lbs.	100008286

MIDDLE PANEL	Note	SHT	ASTM	Weight	Part Number
	<ul style="list-style-type: none"> Request drawing before ordering 	0.0747 x 10 x 25	A1011 SS GR40 W/0.2% CU	4.94 lbs.	100009098
OUTER DOOR REINFORCEMENT	Note	SHT	ASTM	Weight	Part Number
	<ul style="list-style-type: none"> Request drawing before ordering 	0.0747 x 5 x 171-1/2	A1011 HSLAS-F GR80 W/0.2%CU 100KSI Min Tensile	18.55 lbs.	100008939
PIN ASSEMBLY	Note	Weight	Part Number		
	<ul style="list-style-type: none"> ** superseded ** use 100013804 	2.15 lbs.	A10002205		
REINFORCEMENT PLATE	Note	SHT	ASTM	Weight	Part Number
	<ul style="list-style-type: none"> Request drawing before ordering 	0.0747 x 8-1/4 x 15	A1011 SS GR40 W/0.2% CU	2.15 lbs.	100010283

REINFORCEMENT PLATE	Note	SHT	ASTM	Weight	Part Number
	<ul style="list-style-type: none"> Request drawing before ordering 	0.0747 x 8-1/4 x 15	A1011 HSLAS-F GR80 W/0.2%CU 100KSI MIN TENSILE	2.15 lbs.	100009619

ROD GUIDE	Weight	Part Number
	0.36 lbs.	121340-00

SCREEN RETAINER TOP	Note	Weight	Part Number
	<ul style="list-style-type: none"> Request drawing before ordering 	25.97 lbs.	A10001629


SEAL PLATE	Weight	Part Number
	0.47 lbs.	121344-00

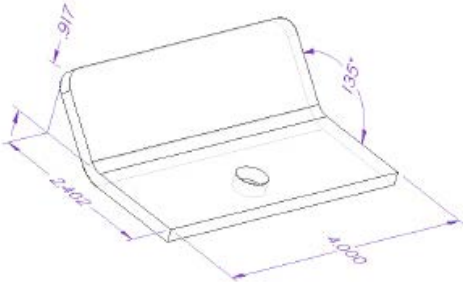
SEAL PIN	Weight	Part Number
	0.38 lbs.	121345-00

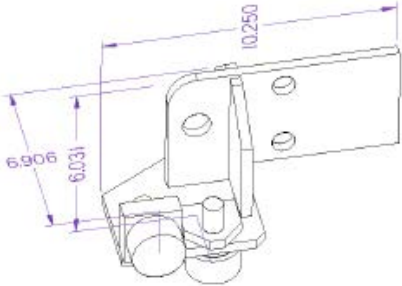
SIDE SHEET	CLASS	SHT	ASTM	Weight	Part Number
	2 W/0.2% CU	0.1196 x 35 x 157-7/16	A1011 HSLAS GR50	186.59 lbs.	100008150

SPACER	Description	Weight	Part Number
	<ul style="list-style-type: none"> • Zinc • Steel 0.38 min ID • 0.54 OD x 1-1/8" long • Request drawing before ordering 	0.03 lbs.	100010923

SPRING ATTACH BRACKET	Description	PL	ASTM	Weight	Part Number
	<ul style="list-style-type: none"> • Used on road numbers 690000-692933 	1/4 x 3 x 3	A36 W/0.2% CU	0.36 lbs.	211005541

SPRING, EXTENSION FOR LATCH BAR	Description	Weight	Part Number
	<ul style="list-style-type: none"> • Extension K=3.7LB/IN • 5 lb initial • Steel, zinc plated 	0.36 lbs.	100001067

STRAP TENSIONER	Description	PL	ASTM	Weight	Part Number
	<ul style="list-style-type: none"> • Used on road numbers 690000-690599 	3/16 x 2-13/16 x 4	A36 W/0.2% CU	0.59 lbs.	100010803

TOP GUIDE ROLLER LEFT HAND	Description	Weight	Part Number
	<ul style="list-style-type: none"> • Used for conversion from tri-bi 	11.37 lbs.	A14748-02

TOP GUIDE ROLLER RIGHT HAND	Description	Weight	Part Number		
	<ul style="list-style-type: none"> Used for conversion from tri-bi 	11.37 lbs.	A14748-01		
TRACK	Description	Weight	Part Number		
	<ul style="list-style-type: none"> Used for conversion from tri-bi (only needed on 694034-onward) 	80.54 lbs.	A10004131		
Z DOOR PROTECTION	Note	PL	ASTM	Weight	Part Number
	<ul style="list-style-type: none"> Request drawing before ordering 	1/4 x 6-1/2 x 7-13/16	A572 GR50 W/0.2% CU LCBR 1T	3.67 lbs.	100009114

Cushioning Units

The Greenbrier Parts Group offers:

Repair Services & Parts

The Greenbrier Parts Group provides a wide range of remanufacturing and repair services for most types and brands of cushioning units. Our fully integrated engineering and manufacturing capabilities ensure efficient and cost-effective operations. We also feature AAR- and UIC-approved impact testing facilities. If you have units not listed, they may still be repairable. For more information, please contact our Customer Service Department at 866-785-4081 ext. 225013.

Upgrade Conversion

The "U" design of our cushioning units offers an upgrade for square-bodied spring return units from any manufacturer, converting them into round-bodied, gas-operated units. A new preload design is also available for existing spring return backstop configurations.

Retrofit

The Greenbrier Parts Group supplies replacement units compatible with most unit types.

Cushion Unit Features

- Preload & Gas Return—No springs required
- High Gas Charge—Provides stronger restoring force
- Precharged—Ready for quick installation
- Induction Hardened, Chrome-Plated Rod—For extended durability
- Unit Condition Indicator (UCI)—Enables instant performance checks
- Full Warranty—Contact us for details.



Cushioning Device Nomenclature

Code Letter Identification

For identification of the various cushioning devices other than by part number, AH has assigned an Individual identification code which includes the length of travel as well as other types of information pertaining to the device. These individual identification codes are assigned by unit groups. To assist in identification of these groups, we have also developed style names based on various car pockets utilized in railcar construction over the past 35 years such as:

1. **Cross Key Type Devices** 10E & 10F
2. **Lugged Style Devices** 10A, 10SR & 15H, 15HD
3. **Rigid Yoke Style Devices** 10M, 15M, 10VM, 15VM, 15IN and 15GR
4. **Floating Yoke Devices** 10RE, 15RE, 10KE and 15KE
5. **Center Car Devices** Associated with the devices it replaces

For further identification, letters or numbers are used which most generally have the same meaning but not always.

- [E] or [F]** Associated with the coupler and unit in the case of the 10E and 10F
- [C]** Conversion from Spring return to gas, from Gas return to Preload, or Reconditioned in-kind, no "C" used if New
- [FS]** When after the group designation indicates spring coupler carrier feature
- [D]** AAR M921 D (50K Preload) Autorack Performance
- [B]** AAR M921 B (100K Preload) Performance
- [E]** AAR M921 E (50K Preload) Autorack Performance
- [F]** AAR M921 F (100K Preload) Performance
- [SP]** When last, indicates Special feature from standard unit type like example:
Front Draft Surface to Pin Hole centerline is 8-1/2" vs. 7-1/4"
- [WR]** When use as a suffix, indicates a Welded pin retainer plate
- [TR]** When use as a suffix, indicates a Threaded pin retainer plate
- [P]** When use as a suffix, indicates a Plug or Tab pin retainer with a 7/8" vertical pin retaining system, normally a 13" body height
- [P1]** When used as a suffix, indicates a Plug or Tab pin retainer with a 7/8" vertical pin retaining system, with 12-1/2" body height
- [LD]** When used as a suffix, indicates unit modified for Low Deck car applications
- [PB]** When use as a suffix, indicates a Box or Pin Block pin retainer with a 1-1/2" bolt vertical pin retaining system
- [K/S]** When use as a suffix, indicates a unit that was manufactured at 13" body height instead of the standard 12-1/2"
- [R]** Associated with a rigid coupler carrier attached to the unit when used after the repair status "C"

Placement of the numbers & letters typically have a special meaning:

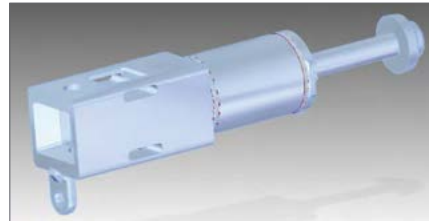
1. Length of travel (10, 12, 15) is the first in the code, but in some devices with Active Draft are be shown as example: 13/2 or 14/1, the larger being Buff travel and the Smaller is the Draft travel (Some OEM's show them in reverse example: 1/14 or 2/13) and the larger is still the Buff travel and the smaller the Draft
2. "F" stands for Freightguard Units and follows the travel (Except in Active Draft Devices)
3. Series letters follow the "-" such as "E", "F", "AR", "SR", "H", "HD", "M", "GR", "KE" and "RE"
4. "C" for Repair Status if Conversion, or Reconditioned and no "C" if a New Device
5. Type of coupler connector only used with "E" type connections, not used on Non cross key type devices
6. Number indication preload precedes the type of coupler (D, B, E, F)
7. Suffix if added for pin retaining system, or special feature examples are: "WR", "TR", "P", "PB" and "SP"

AH produces several hundred different cushioning devices today, following is a short list of different devices listed by style:



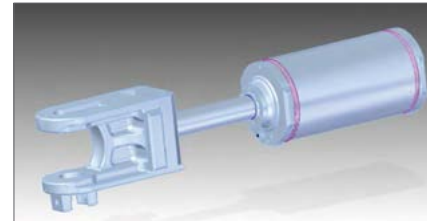
Center of Car Devices

DA20, DA20G, DA20GM, DA20G ATSF, 20BN, SA20G, 20N, 20AN, F20B, F20C, SA20MS, SA20M, SA20GMS, SA20GM, 20PSN, 30BN, F30B



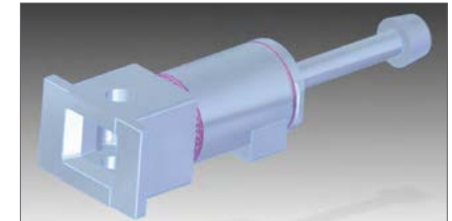
Cross Key Style Devices

10F-FCD WR, 10F-FCD TR, 10F-FCD PB, 10F-FCB WR, 10F-FCB TR, 10F-FCB PB, 10F-FSCB 10F-ECB



Floating Yoke Devices

10F-RECD, 10F-RECB, 10F-RED, 10F-REB, 15F-RECD, 15F-RECB, 15F-RED, 15F-REB, 10FRECD LD, 10FRED LD, 15FRECB LD, 15FRED LD, 13/2RECF, 2/13RECF, 14/1RECF, 1/14RECF (Active Draft), 10F-KECD, 10F-KECB, 10F-KED, 10F-KEB, 15F-KECD, 15F-KECB, 15F-KED, 15F-KEB, 18F-RECB, 16/2RECF, 2/16RECF (Active Draft)



Lugged Style Devices

10F-ACD WR, 10F-ACD TR, 10F-ACD P, 10F-ACD P1, 10F-ACD PB, 10F-ACB WR, 10F-ACB TR, 10F-ACB P, 10F-ACB P1, 10F-ACB PB, 10F-SRCEB, 15F-HCD WR, 15F-HCD TR, 15F-HCD P, 15F-HCD P1, 15F-HCD PB, 15F-HCB WR, 15F-HCB TR, 15F-HCB P, 15FHCB P1, 15F-HCB PB, 15F-HCRB WR, 15F-HCRB TR, 15F-HCRB PB, 15F-HCED, 15F-HCEB



Rigid Yoke Style Devices

10F-MCD PB, 10F-MCD P, 10F-MCD P1, 10F-MCB PB, 10F-MCB P, 10F-MCB P1, 10F-MD PB, 10F-MB PB, 10F-MD P, 10F-MB P, 12F-MCB PB, 12F-MCB P, 12F-MCB P1, 15F-MCD PB, 15F-MCD P, 15F-MCD P1, 15F-MCB PB, 15F-MCB P, 15F-MCB P1, 15F-MD PB, 15F-MB PB, 15F-MD P, 15F-MB P, 13/2MCF, 2/13MCF, 13/1MCF, 1/13MCF (Active Draft), 10F-MCEB, 10F-MCEB K/S, 10F-MEB K/S, 15F-MCEB, 15F-MCEB K/S, 15F-MEB K/S, 15F-GRB SP, 15F-INCD, 15F-INCB, 15F-INCEB



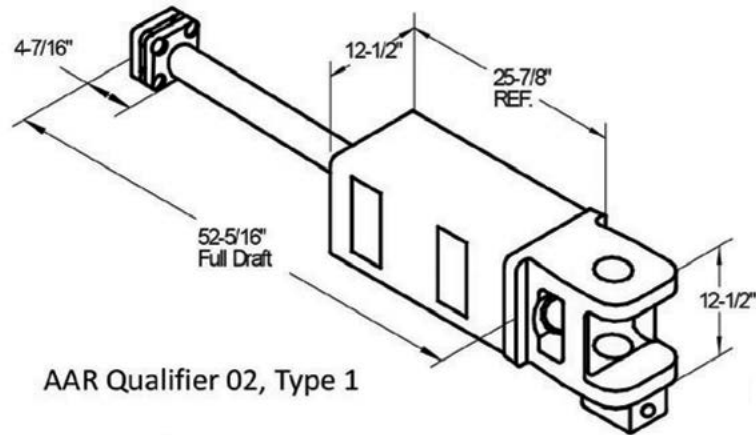
These are just a few examples. Many other cushioning devices have been used by current or former manufacturers such as ACF Freight Saver, Keystone, Dresser Hydra Cushion and Pullman Standard models. When converting or adding preload to one of these devices, we strive to maintain the original identification, incorporating numbers or letters that hold the same meaning as the original. Each of these devices will fall into one of the listed device styles.

For assistance with identifying cushioning device nomenclature not covered here or for additional information, please contact us at 866-785-4081.

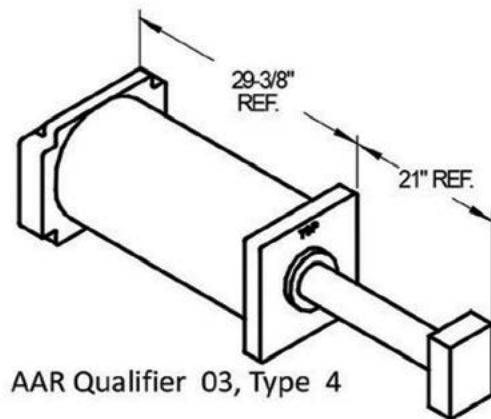
AAR Group EOC 1, 1B, 1D

10", 12", 15" Travel, E69 Series Couplers, TTX Universal Pocket

ORIGINAL CUSHIONING UNITS

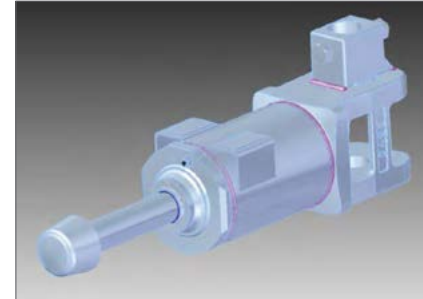


AAR Qualifier 02, Type 1



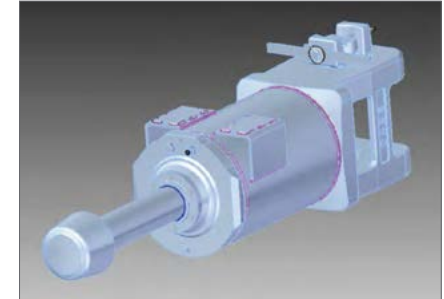
AAR Qualifier 03, Type 4

REPLACEMENT CUSHIONING UNITS



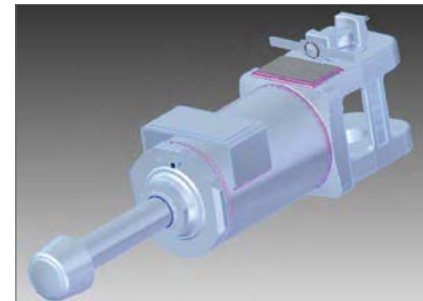
AAR Qualifier 02, Type 1

SPEC	PART NO.	MODEL
M-921D	N038PB	15FMCDPB
M-921B	N039PB	15FMCBPB
M-921D	N011PB	15FMDBPB
M-921B	N013PB	15FMBPB



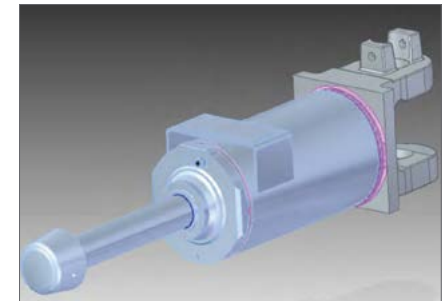
AAR Qualifier 02, Type 1

SPEC	PART NO.	MODEL
M-921D	N038P1	15FMCDP1
M-921B	N039P1	15FMCBP1
M-921D	N011P1	15FMDP1
M-921B	N013P1	15FMBP1



AAR Qualifier 06, Type 2

SPEC	PART NO.	MODEL
M-921D	N018P	15FMCDP
M-921B	N021P	15FMCBP
M-921D	N011P	15FMDP
M-921B	N013P	15FMBP



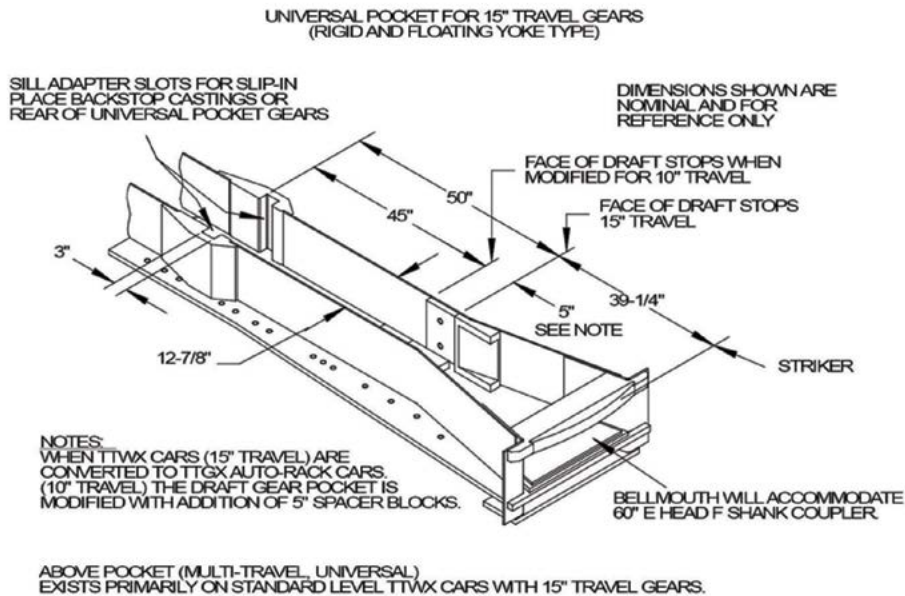
AAR Qualifier 06, Type 2

SPEC	PART NO.	MODEL
M-921D	N018P	15FMCDP
M-921B	N021P	15FMCBP

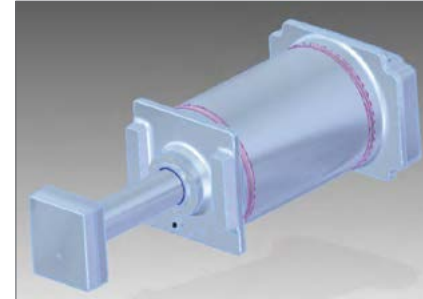
AAR Group EOC 1, 1B, 1D

10", 12", 15" Travel, E69 Series Couplers, TTX Universal Pocket

EOC-1 POCKET LAYOUT



REPLACEMENT CUSHIONING UNITS



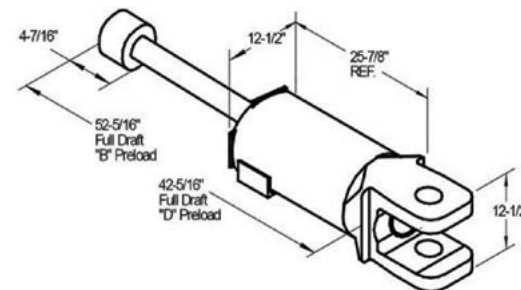
AAR Qualifier 03, Type 4

SPEC	PART NO.	MODEL
M-921D	N054	15FKECD
M-921B	N055	15FKECB
M-921D	N124	15FKED
M-921B	N118	15FKEB



Part Number: 3450

"F" yoke used with
qualifier 03, type 4 only.



AAR Qualifier 10, Type 3

SPEC	PART NO.	MODEL
M-921D	N091	15FVMCD
M-921B	N087	15FVMCB



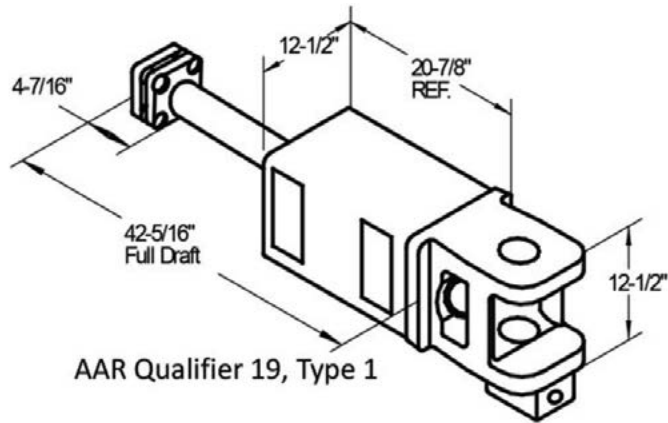
Part Number: 87.15406

Backstop casting used on
all units except qualifier 03.

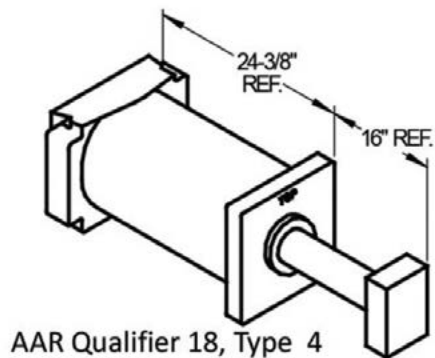
AAR Group EOC 2, 2B, 2D

10" Travel, E69 Series Couplers, TTX Universal Pocket

ORIGINAL CUSHIONING UNITS

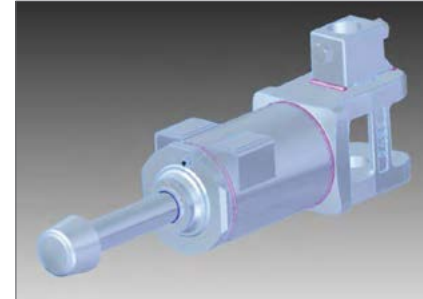


AAR Qualifier 19, Type 1



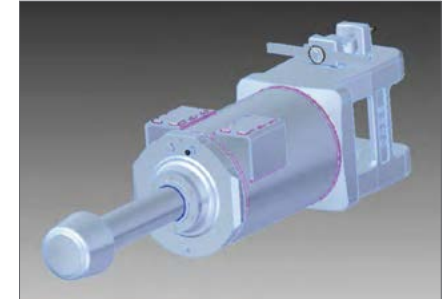
AAR Qualifier 18, Type 4

REPLACEMENT CUSHIONING UNITS



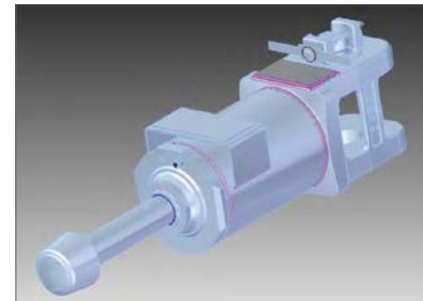
AAR Qualifier 03, Type 1

SPEC	PART NO.	MODEL
M-921D	N031PB	10FMCDPB
M-921B	N032PB	10FMCBPB
M-921D	N008PB	10FMDBPB
M-921B	N009PB	10FMBPB



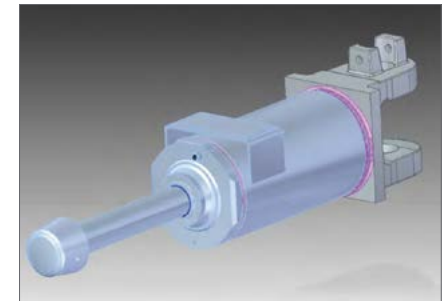
AAR Qualifier 03, Type 1

SPEC	PART NO.	MODEL
M-921D	N031P1	10FMCDP1
M-921B	N032P1	10FMCBP1
M-921D	N008P1	10FMDP1
M-921B	N009P1	10FMBP1



AR Qualifier 12, Type 2

SPEC	PART NO.	MODEL
M-921D	N014P	10FMCDP
M-921B	N015P	10FMCBP
M-921D	N008P	10FMDP
M-921B	N009P	10FMBP



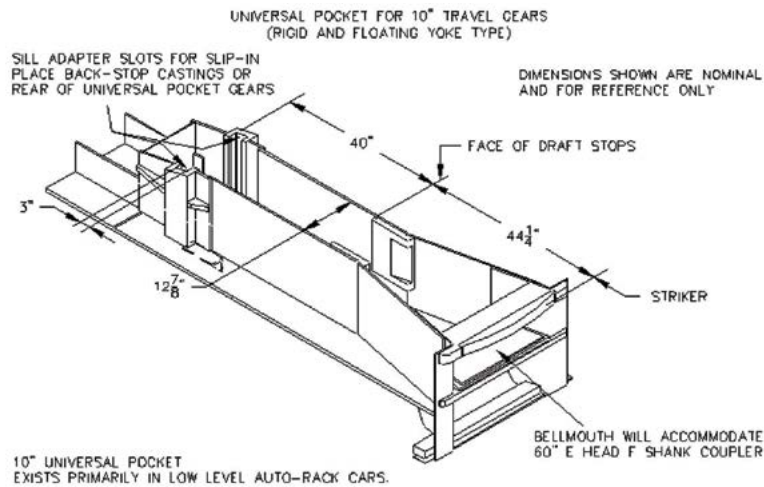
AAR Qualifier 12, Type 2

SPEC	PART NO.	MODEL
M-921D	N014P	10FMCDP
M-921B	N015P	10FMCBP

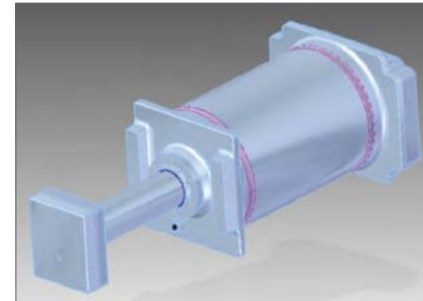
AAR Group EOC 2, 2B, 2D

10" Travel, E69 Series Couplers, TTX Universal Pocket

EOC-2 POCKET LAYOUT



REPLACEMENT CUSHIONING UNITS



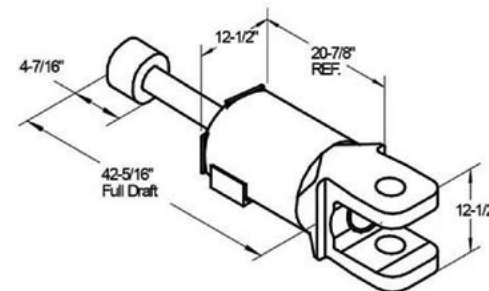
AAR Qualifier 08, Type 4

SPEC	PART NO.	MODEL
M-921D	N050	10FKECD
M-921B	N051	10FKECB
M-921D	N081	10FKED
M-921B	N123	10FKEB



Part Number: 3450

*"F" yoke used with qualifier 08,
type 4 only.*



AAR Qualifier 13, Type 3

SPEC	PART NO.	MODEL
M-921D	N090	10FVMCD
M-921B	N085	10FVMCB



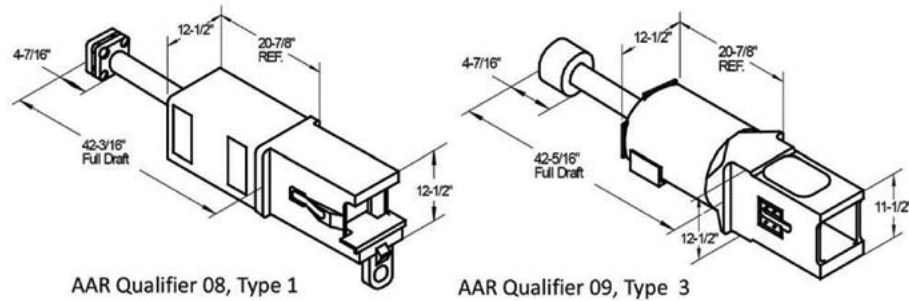
Part Number: 87.15406

*Backstop casting used on all units
except Qualifier 08, Type 4.*

AAR Group EOC 3, 3B, 3D

10" Travel, E60 Series Couplers

ORIGINAL CUSHIONING UNITS

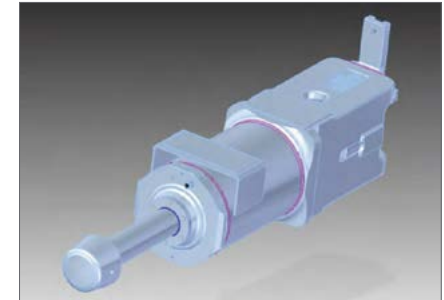


REPLACEMENT CUSHIONING UNITS



AAR Qualifier 13, Type 2

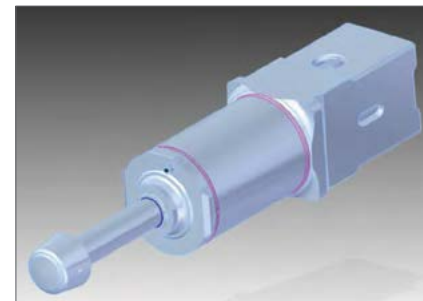
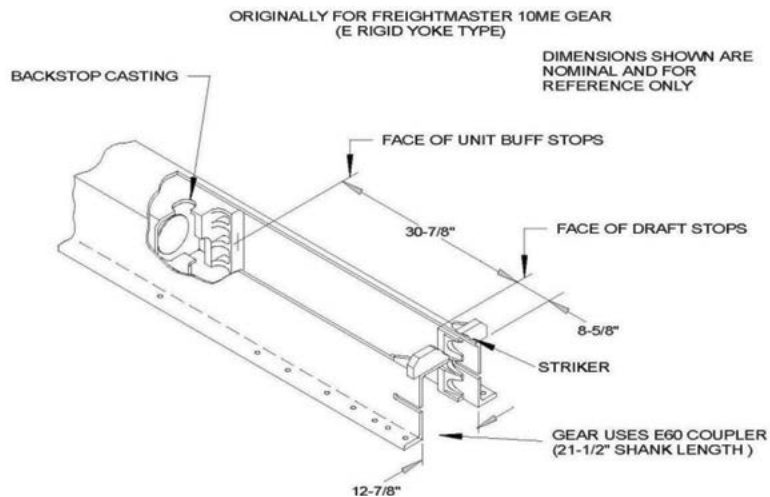
SPEC	PART NO.	MODEL
M-921B	N129	10FMCEB K/S
M-921B	N069TB	10FMEB TB



AAR Qualifier 15, Type 1

SPEC	PART NO.	MODEL
M-921B	N029	10FMCEB

EOC-3 POCKET LAYOUT



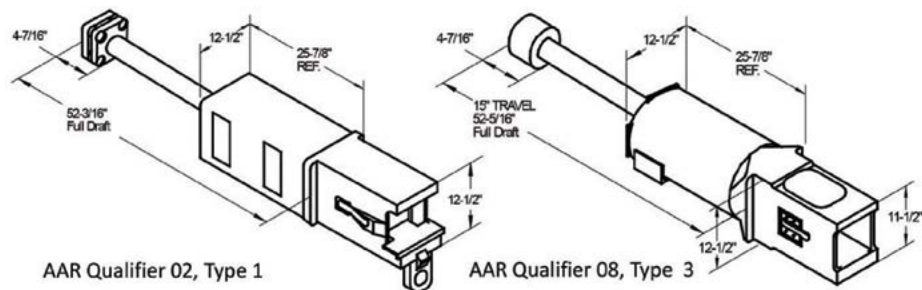
AAR Qualifier 12, Type 3

SPEC	PART NO.	MODEL
M-921B	N086	10FVMCEB

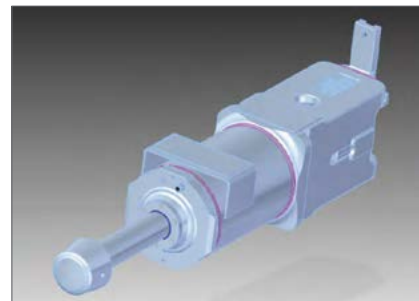
AAR Group EOC 4, 4B, 4D

15" Travel, E60 Series Couplers

ORIGINAL CUSHIONING UNITS



REPLACEMENT CUSHIONING UNITS



AAR Qualifier 15, Type 2

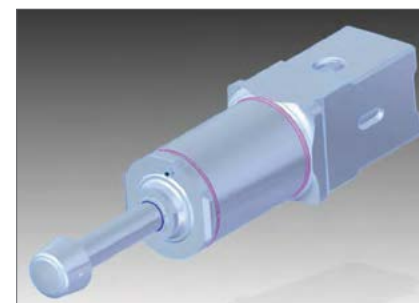
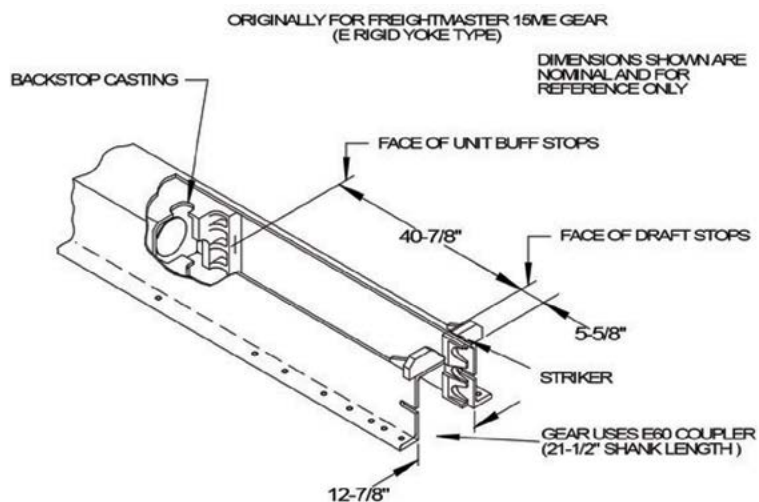
SPEC	PART NO.	MODEL
M-921B	N130	15FMCEB K/S
M-921B	N071TB	15FMCEB TB



AAR Qualifier 16, Type 1

SPEC	PART NO.	MODEL
M-921B	N035	15FMCEB

EOC-4 POCKET LAYOUT



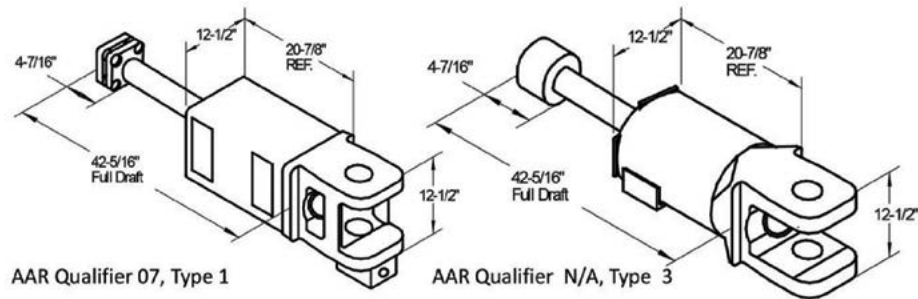
AAR Qualifier 10, Type 3

SPEC	PART NO.	MODEL
M-921B	N088	15FVMCEB

AAR Group EOC 5, 5B, 5D

10" Travel, E68 or E69 Series Couplers

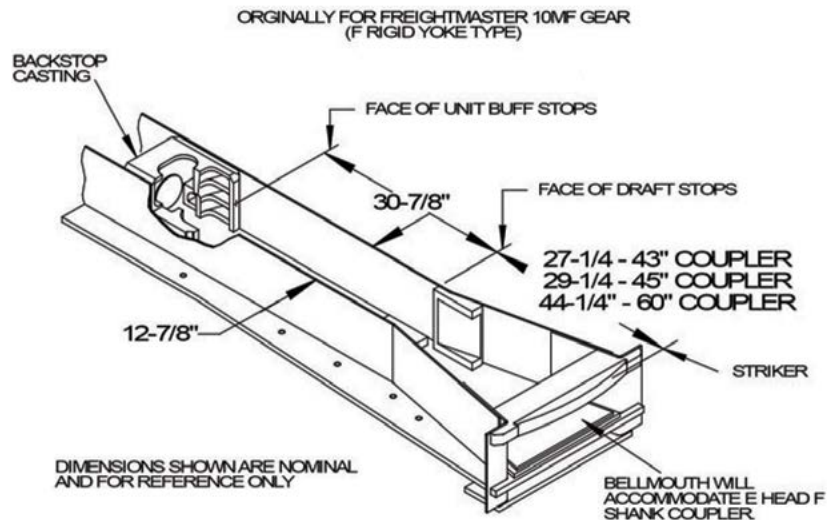
ORIGINAL CUSHIONING UNITS



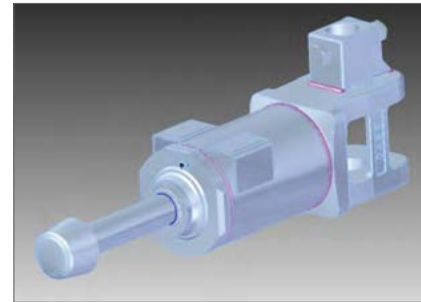
AAR Qualifier 07, Type 1

AAR Qualifier N/A, Type 3

EOC-3 POCKET LAYOUT

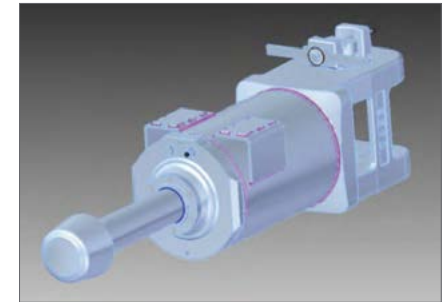


REPLACEMENT CUSHIONING UNITS



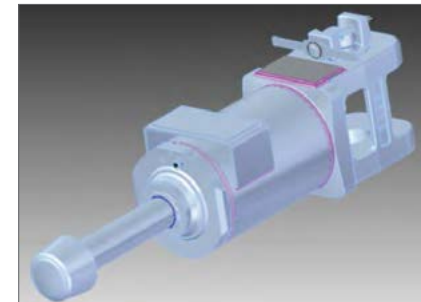
AAR Qualifier 07, Type 1

SPEC	PART NO.	MODEL
M-921D	N031	10FMCD PB
M-921B	N032	10FMCB PB
M-921D	N008PB	10FMD PB
M-921B	N009PB	10FMB PB



AAR Qualifier 07, Type 1

SPEC	PART NO.	MODEL
M-921D	N031P1	10FMCDP1
M-921B	N032P1	10FMCBP1
M-921D	N008P1	10FMDP1
M-921B	N009P1	10FMBP1

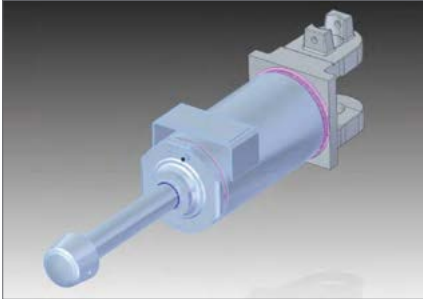


AAR Qualifier 12, Type 2

SPEC	PART NO.	MODEL
M-921D	N014P	10FMCDP
M-921B	N015P	10FMCBP
M-921D	N008P	10FMDP
M-921B	N009P	10FMBP

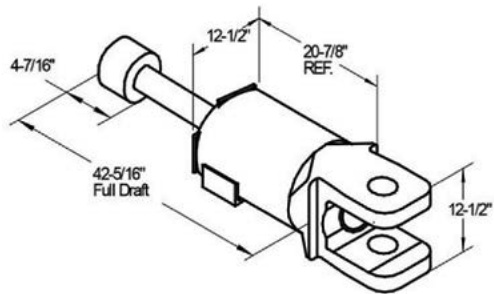
AAR Group EOC 5, 5B, 5D *(continued)*

REPLACEMENT CUSHIONING UNITS, *continued*



AAR Qualifier 12, Type 2

SPEC	PART NO.	MODEL
M-921D	N014	10FMCD P
M-921B	N015	10FMCB P
M-921D	N008P	10FMD P
M-921B	N009P	10FMB P



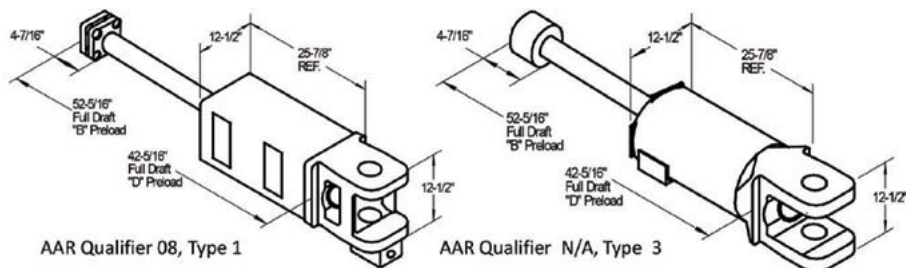
AAR Qualifier 13, Type 3

SPEC	PART NO.	MODEL
M-921D	N090	10FVMCD
M-921B	N085	10FVMCB

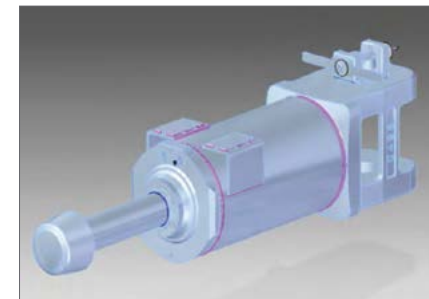
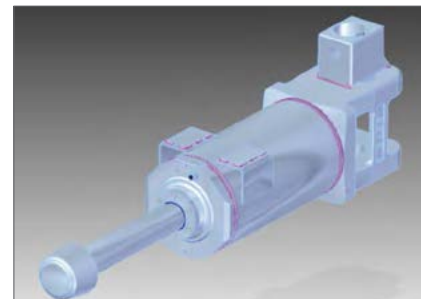
AAR Group EOC 6, 6B, 6D

15" Travel, E68 or E69 Series Couplers

ORIGINAL CUSHIONING UNITS



REPLACEMENT CUSHIONING UNITS



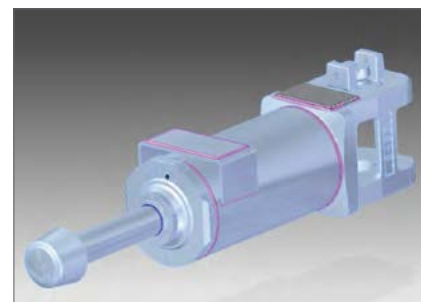
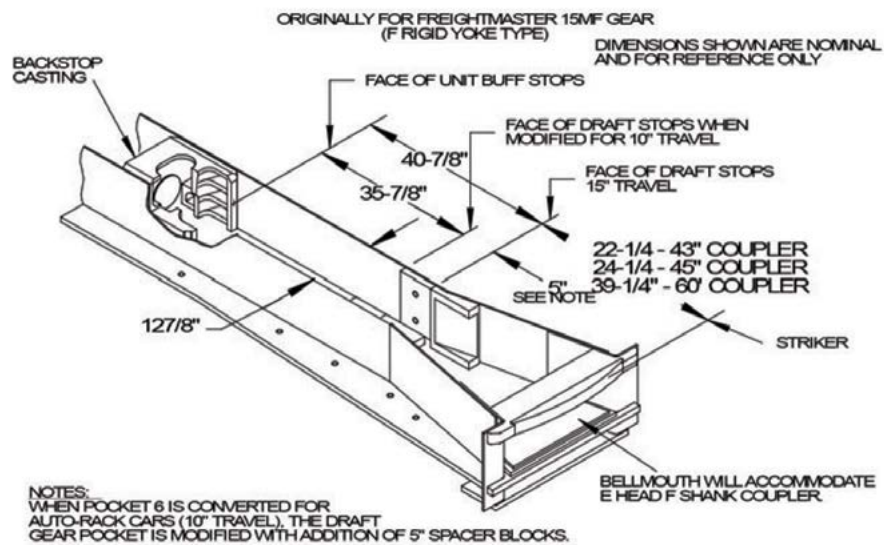
AAR Qualifier 08, Type 1

SPEC	PART NO.	MODEL
M-921D	N038PB	15FMCD PB
M-921B	N039PB	15FMCB PB
M-921D	N011PB	15FMD PB
M-921B	N013PB	15FMB PB

AAR Qualifier 08, Type 1

SPEC	PART NO.	MODEL
M-921D	N038P1	15FMCDP1
M-921B	N039P1	15FMCBP1
M-921D	N011P1	15FMDP1
M-921B	N013P1	15FMBP1

EOC-6 POCKET LAYOUT

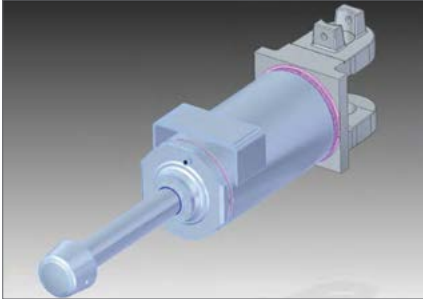


AAR Qualifier 09, Type 2

SPEC	PART NO.	MODEL
M-921D	N018P	15FMCDP
M-921B	N021P	15FMCBP
M-921D	N011P	15FMDP
M-921B	N013P	15FMBP

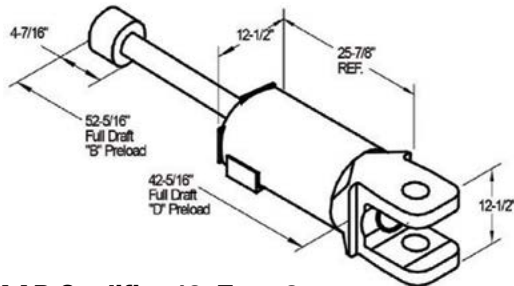
AAR Group EOC 6, 6B, 6D (continued)

REPLACEMENT CUSHIONING UNITS, *continued*



AAR Qualifier 09, Type 2

SPEC	PART NO.	MODEL
M-921D	N018	15FMCD P
M-921B	N021	15FMCB P
M-921D	N011P	15FMD P
M-921B	N013P	15FMB P

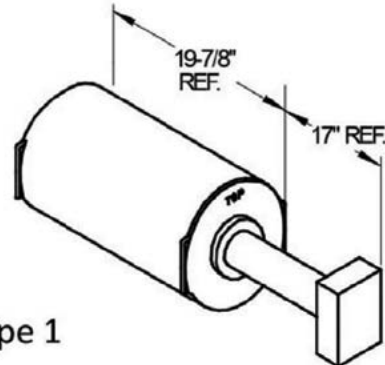


AAR Qualifier 10, Type 3

SPEC	PART NO.	MODEL
M-921D	N091	15FVMCD
M-921B	N087	15FVMCB

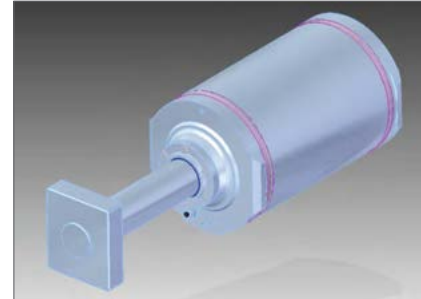
AAR Group EOC 7, 7B 10" Travel, E60 Series Couplers

ORIGINAL CUSHIONING UNITS



AAR Qualifier 03, Type 1

REPLACEMENT CUSHIONING UNITS

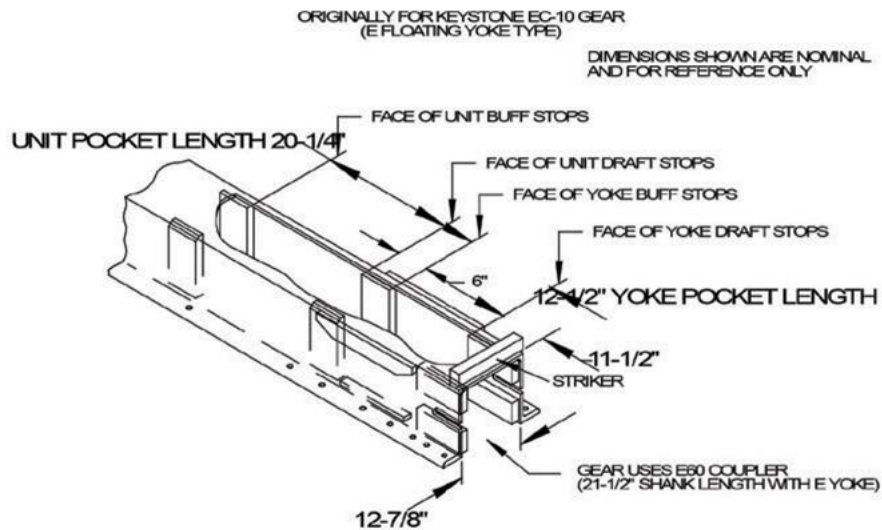


AAR Qualifier 03, Type 1

SPEC	PART NO.	MODEL
M-921B	N064	10FRECB
M-921B	N075	10FREB

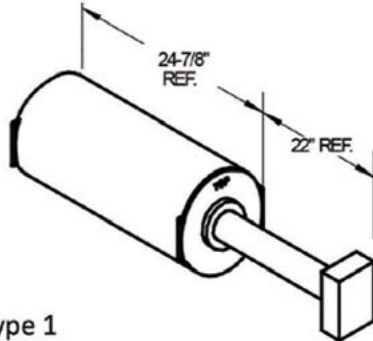
Part Number: 4608N10TB
Yoke required for type 1 units

EOC-7 POCKET LAYOUT



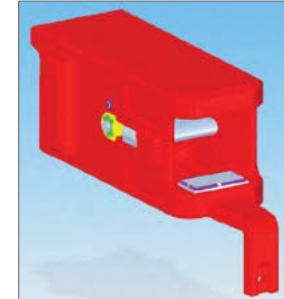
AAR Group EOC 8, 8B 15" Travel, E67 Series Couplers

ORIGINAL CUSHIONING UNITS



AAR Qualifier 03, Type 1

REPLACEMENT CUSHIONING UNITS

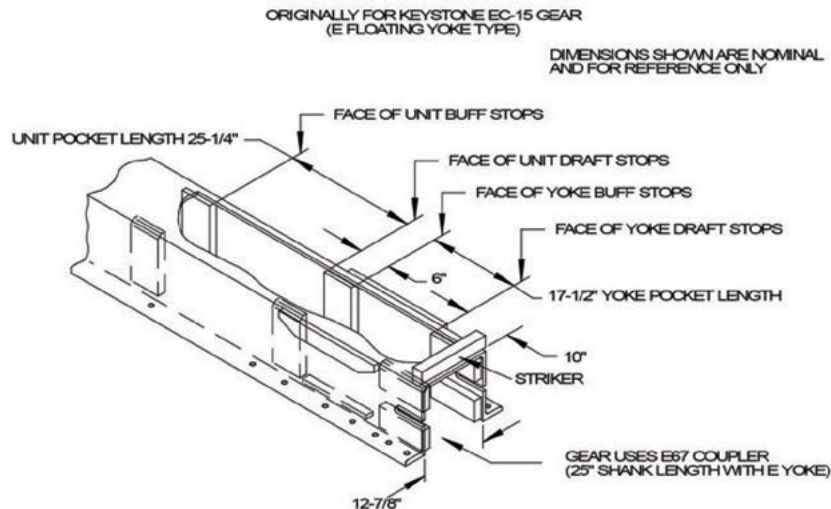


AAR Qualifier 03, Type 1

SPEC	PART NO.	MODEL
M-921B	N068	15FRECB
M-921B	N084	15FREB
M-921F	N060	13/2RECF
M-921F	N147	14/1RECF

Part Number: 4608N15TB
Yoke required for type 1 units

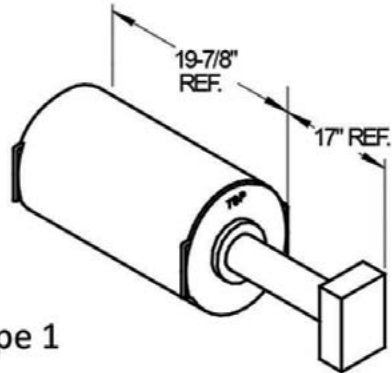
EOC-8 POCKET LAYOUT



AAR Group EOC 9, 9B, 9D

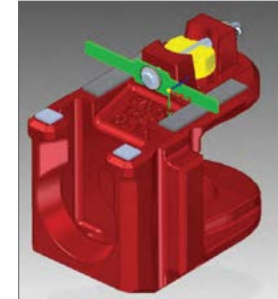
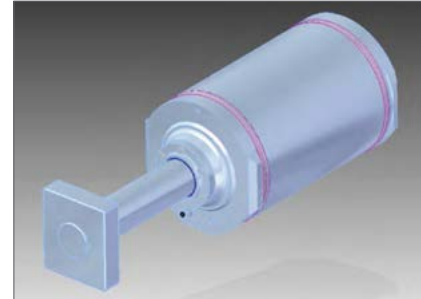
10" Travel, E68 or E69 Series Couplers

ORIGINAL CUSHIONING UNITS



AAR Qualifier 03, Type 1

REPLACEMENT CUSHIONING UNITS

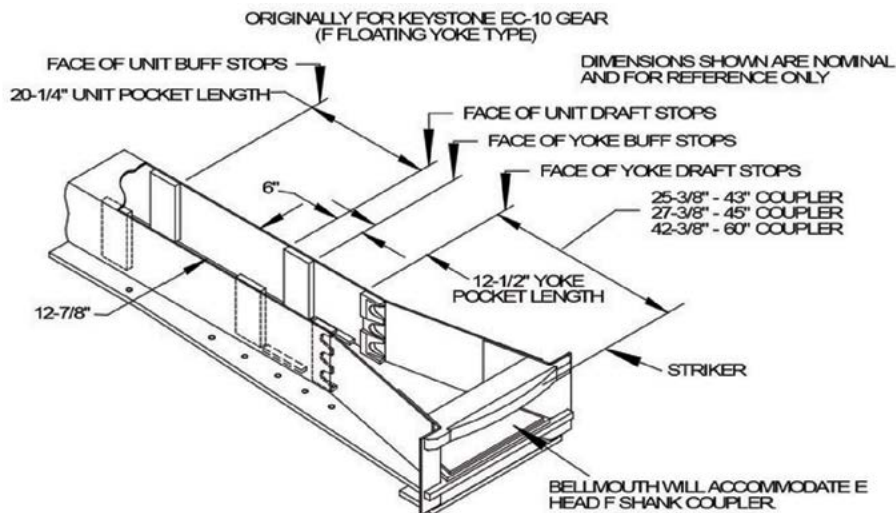


AAR Qualifier 03, Type 1

Part Number: 5702
Yoke required for type 1 units

SPEC	PART NO.	MODEL
M-921D	N061	10FRECD
M-921B	N064	10FRECB
M-921D	N076	10FRED
M-921B	N075	10FREB
M-921E	N077	9/1REE

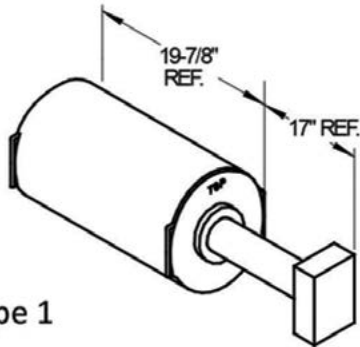
EOC-9 POCKET LAYOUT



AAR Group EOC 10, 10B, 10D, 10F

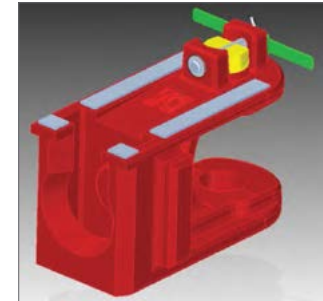
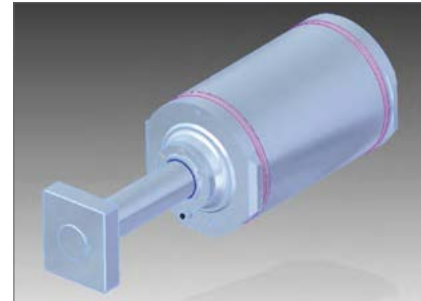
15" Travel, E68 or E69 Series Couplers

ORIGINAL CUSHIONING UNITS



AAR Qualifier 03, Type 1

REPLACEMENT CUSHIONING UNITS



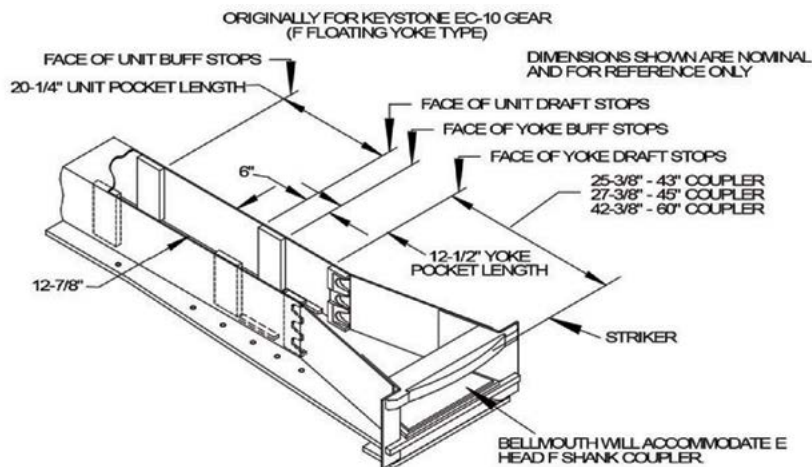
AAR Qualifier 03, Type 1

Part Number: 5704

Yoke required for type 1 units

SPEC	PART NO.	MODEL
M-921D	N063	15FRECD
M-921B	N068	15FRECB
M-921D	N117	15FRED
M-921B	N084	15FREB
M-921F	N060	13/2RECF
M-921F	N147	14/1RECF

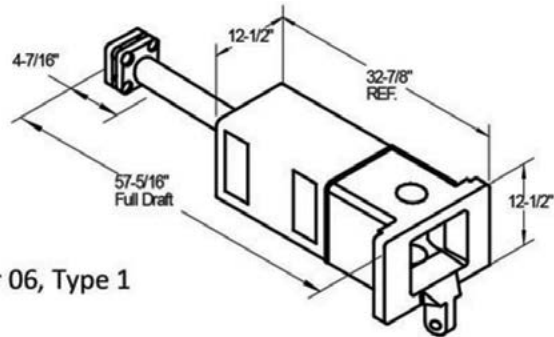
EOC-10 POCKET LAYOUT



AAR Group EOC 11, 11B, 11D

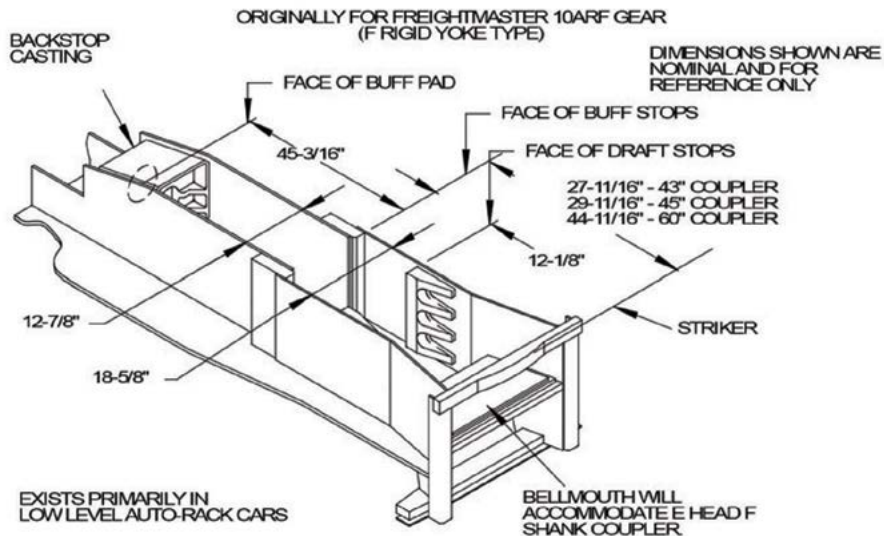
10" Travel, E68 or E69 Series Couplers

ORIGINAL CUSHIONING UNITS

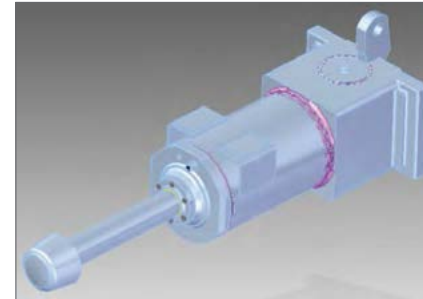


AAR Qualifier 06, Type 1

EOC-11 POCKET LAYOUT

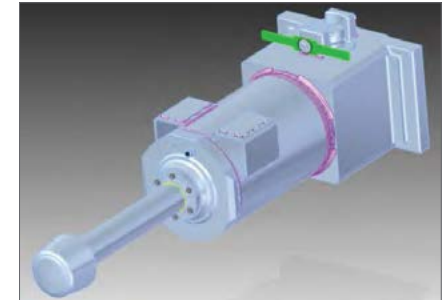


REPLACEMENT CUSHIONING UNITS



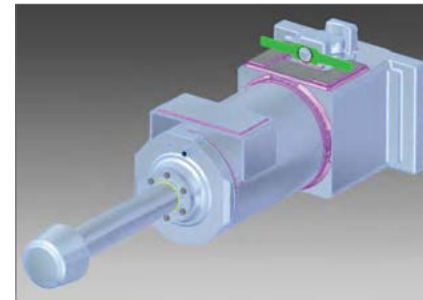
AAR Qualifier 06, Type 1

SPEC	PART NO.	MODEL
M-921D	N025	10FACD WR
M-921B	N026	10FACB WR
M-921D	N030	10FACD TR
M-921B	N099	10FACB TR



AAR Qualifier 06, Type 1

SPEC	PART NO.	MODEL
M-921D	N097P1	10FACD P1
M-921B	N098P1	10FACB P1

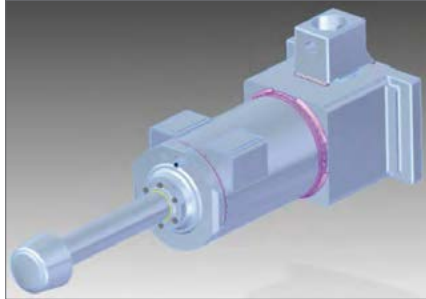


AAR Qualifier 1B, 7D, Type 2

SPEC	PART NO.	MODEL
M-921D	N097	10FACD P
M-921B	N098	10FACB P

AAR Group EOC 11, 11B, 11D *(continued)*

REPLACEMENT CUSHIONING UNITS, *continued*



AAR Qualifier 2B, 10D, Type 3

SPEC	PART NO.	MODEL
M-921D	N033	10FACD PB
M-921B	N100	10FACB PB

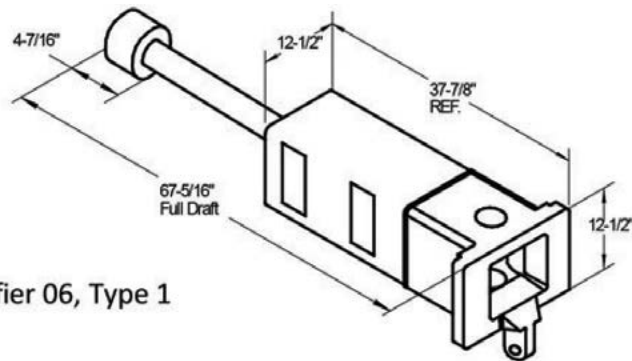


TR = Treaded pin
retainer also available for
bottom pin loading

AAR Group EOC 12, 12B, 12D

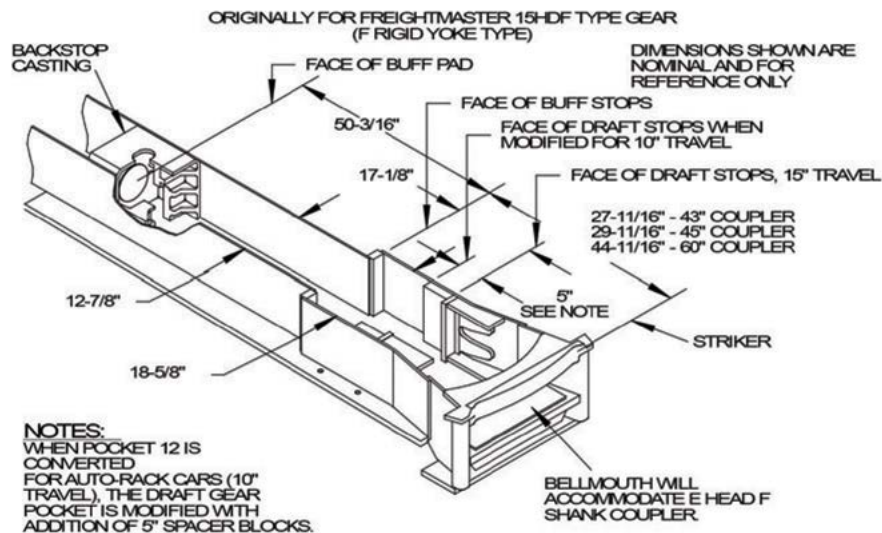
15" Travel, E68 or E69 Series Couplers

ORIGINAL CUSHIONING UNITS

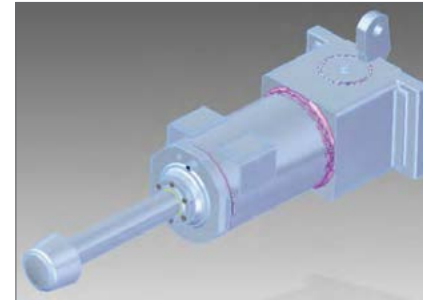


AAR Qualifier 06, Type 1

EOC-12 POCKET LAYOUT

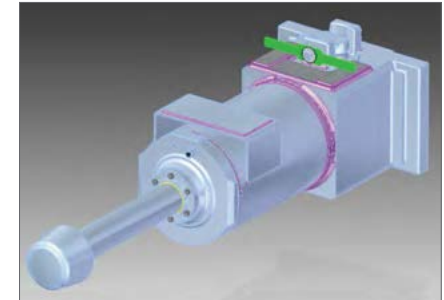


REPLACEMENT CUSHIONING UNITS



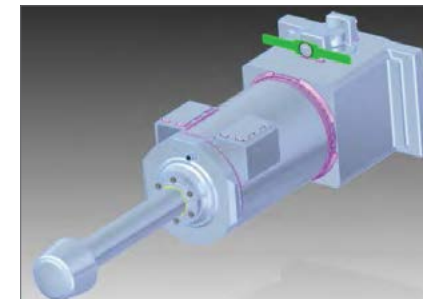
AAR Qualifier 06, Type 1

SPEC	PART NO.	MODEL
M-921D	N047	15FHCD WR
M-921B	N046	15FHCB WR
M-921D	N062	15FHCD TR
M-921B	N065	15FHCB TR



AAR Qualifier 06, Type 1

SPEC	PART NO.	MODEL
M-921D	N041P1	15FHCD P1
M-921B	N049P1	15FHCB P1

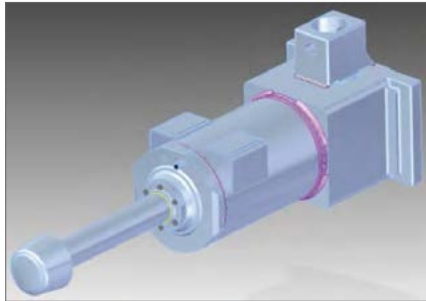


AAR Qualifier 10B, 7D, Type 2

SPEC	PART NO.	MODEL
M-921D	N041	15FHCD P
M-921B	N049	15FHCB P

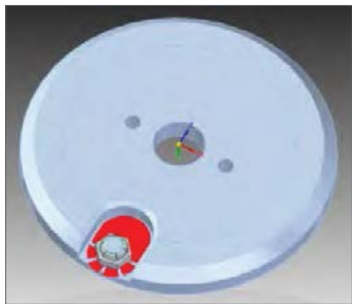
AAR Group EOC 12, 12B, 12D *(continued)*

REPLACEMENT CUSHIONING UNITS, *continued*



AAR Qualifier 11B, 10D, Type 3

SPEC	PART NO.	MODEL
M-921D	N045	15FHCD PB
M-921B	N048	15FHCB PB

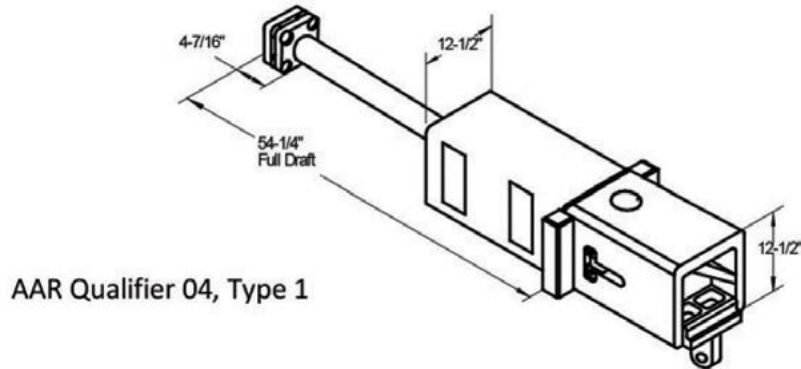


TR = Treaded pin
retainer also available
for bottom pin loading

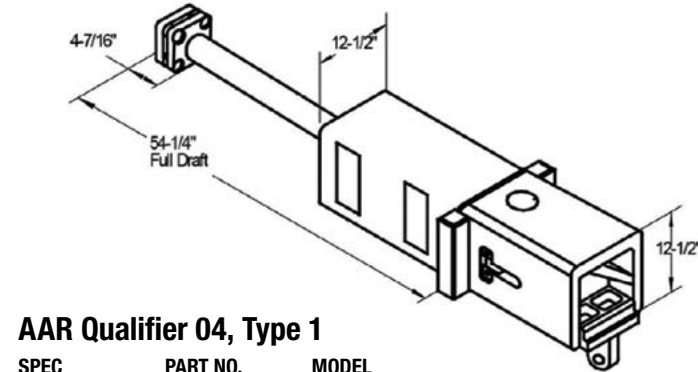
AAR Group EOC 13, 13B

15" Travel, E60 Series Couplers

ORIGINAL CUSHIONING UNITS

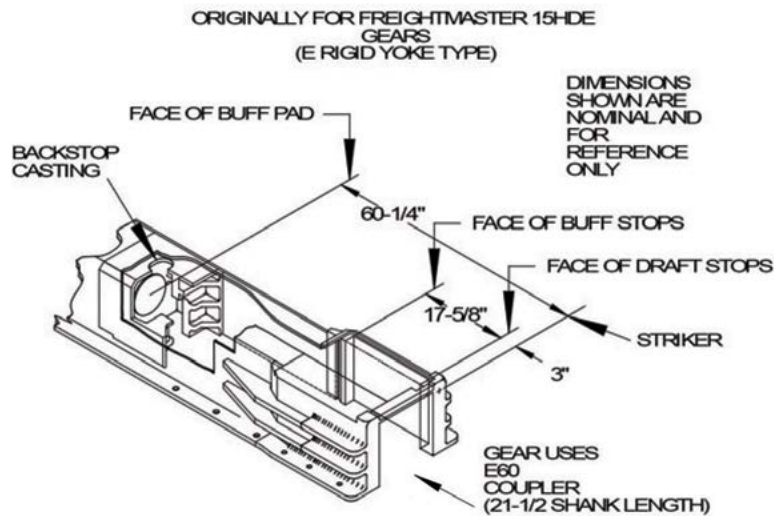


REPLACEMENT CUSHIONING UNITS



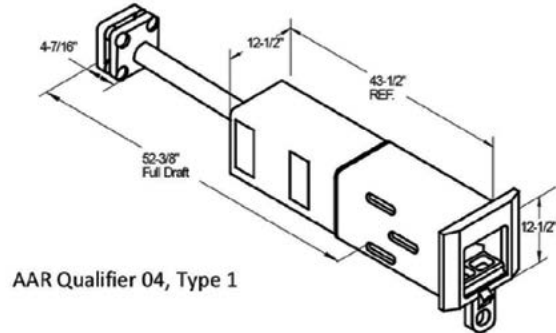
SPEC	PART NO.	MODEL
M-921B	N044	15FHCEB

EOC-13 POCKET LAYOUT

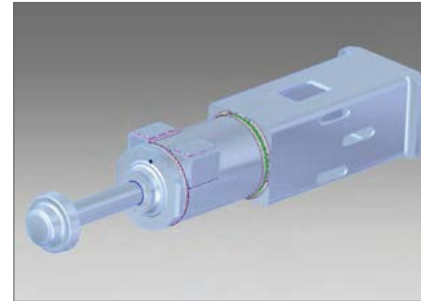


AAR Group EOC 14, 14B 10" Travel, E60 Series Couplers

ORIGINAL CUSHIONING UNITS



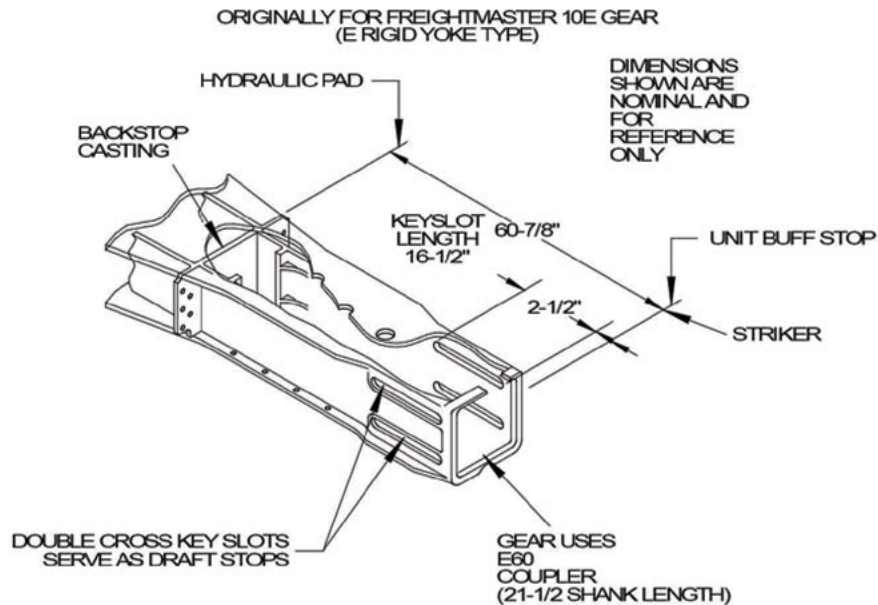
REPLACEMENT CUSHIONING UNITS



AAR Qualifier 04, Type 1

SPEC	PART NO.	MODEL
M-921B	N020	10FECB

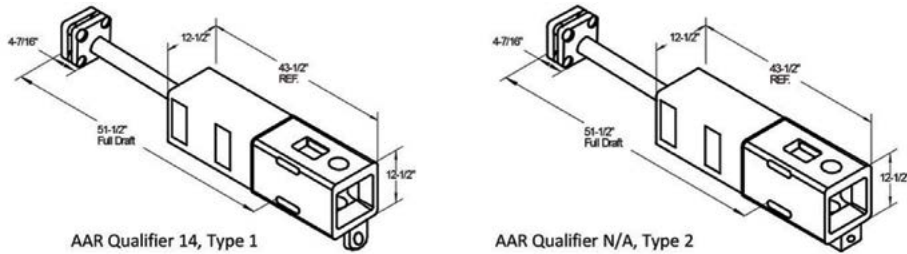
EOC-14 POCKET LAYOUT



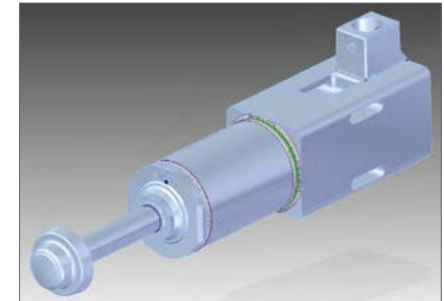
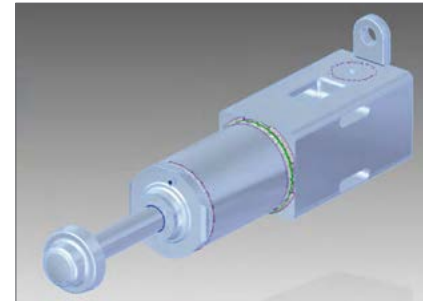
AAR Group EOC 15, 15B, 15D

10" Travel, E68 or E69 Series Couplers

ORIGINAL CUSHIONING UNITS



REPLACEMENT CUSHIONING UNITS



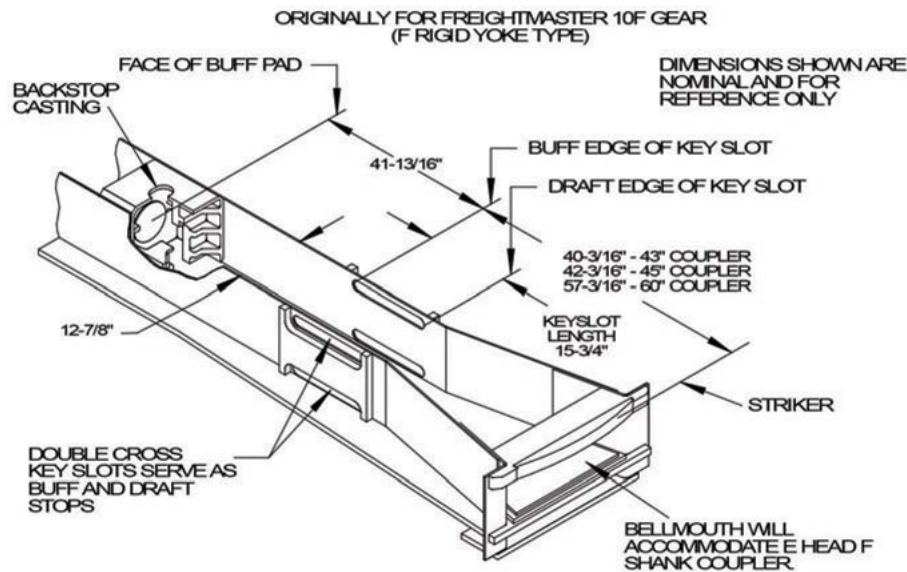
AAR Qualifier 06, Type 1

SPEC	PART NO.	MODEL
M-921D	N022	10FFCD WR
M-921B	N023	10FFCB WR
M-921D	N056	10FFCD TR
M-921B	N037	10FFCB TR

AAR Qualifier 10, Type 2

SPEC	PART NO.	MODEL
M-921D	N024	10FFCD PB
M-921B	N072	10FFCB PB

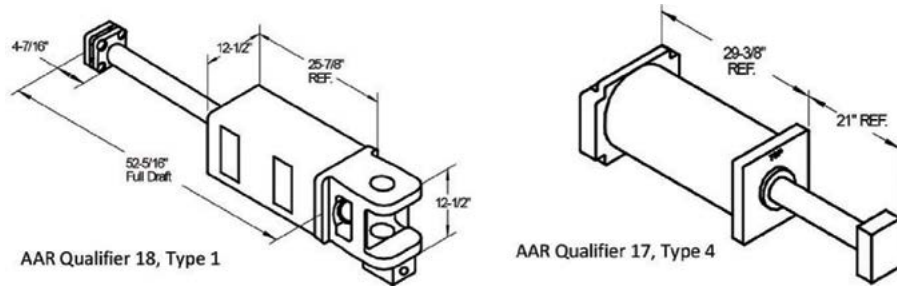
EOC-15 POCKET LAYOUT



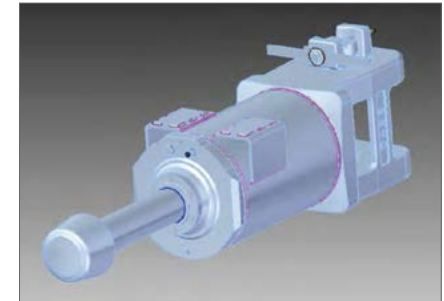
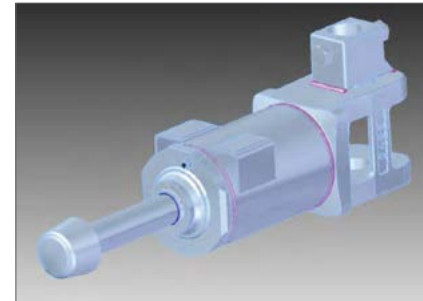
AAR Group EOC 16, 16B, 16D

12" Travel, for E/F Series Couplers

ORIGINAL CUSHIONING UNITS



REPLACEMENT CUSHIONING UNITS



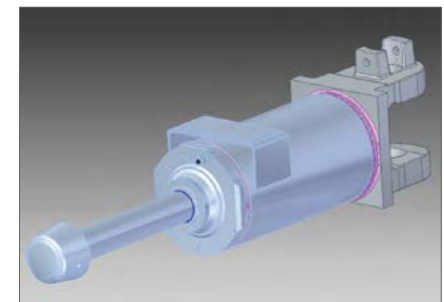
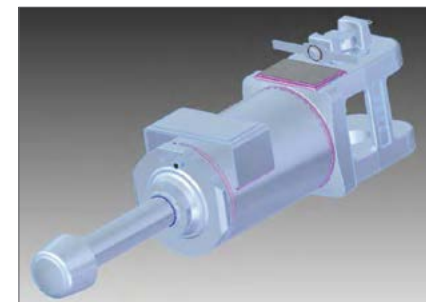
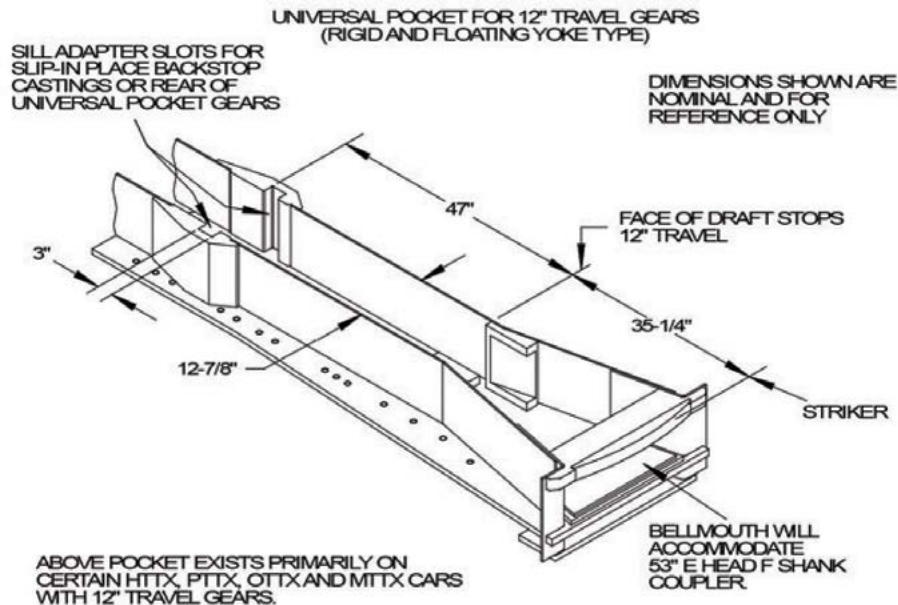
AAR Qualifier 02, Type 1

SPEC	PART NO.	MODEL
M-921D	N038PB	15FMCDPB
M-921B	N039PB	15FMCBPB
M-921D	N011PB	15FMDBPB
M-921B	N013PB	15FMBPB

AAR Qualifier 02, Type 1

SPEC	PART NO.	MODEL
M-921D	N038P1	15FMCDP1
M-921B	N039P1	15FMCBP1
M-921D	N011P1	15FMDP1
M-921B	N013P1	15FMBP1

EOC-16 POCKET LAYOUT



AAR Qualifier 06, Type 2

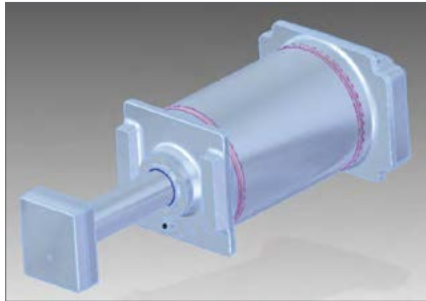
SPEC	PART NO.	MODEL
M-921D	N018P	15FMCDP
M-921B	N021P	15FMCBP
M-921D	N011P	15FMDP
M-921B	N013P	15FMBP

AAR Qualifier 06, Type 2

SPEC	PART NO.	MODEL
M-921D	N018P	15FMCDP
M-921B	N021P	15FMCBP

AAR Group EOC 16, 16B, 16D *(continued)*

REPLACEMENT CUSHIONING UNITS, *continued*

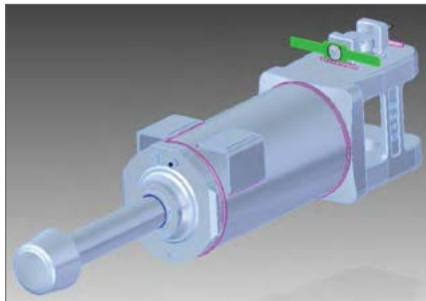


AAR Qualifier 16, Type 4

SPEC	PART NO.	MODEL
M-921D	N054	15FKECD
M-921B	N055	15FKECB
M-921D	N124	15FKED
M-921B	N118	15FKEB
M-921B	N010	12FKECB
M-921B	N012	12KEB

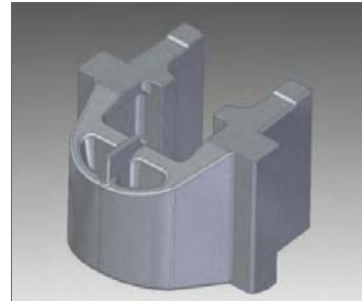


Part Number: 3450
*"F" yoke used with Qualifier 16,
type 4 only.*



AAR Qualifier 02, Type 1

SPEC	PART NO.	MODEL
M-921B	N004	12FMCBP1
M-921B	N007	12FMBP1

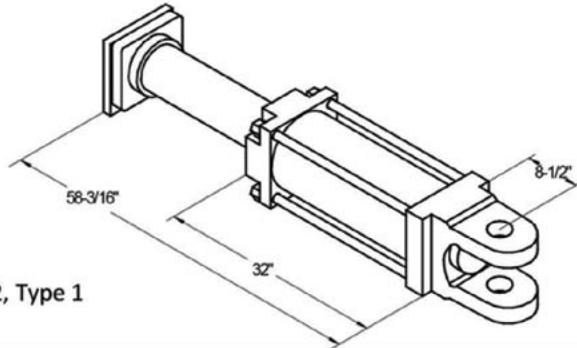


Part Number: 87.15406
*Backstop casting used on all
units except Qualifier 16.*

AAR Group EOC 17, 17B, 17D

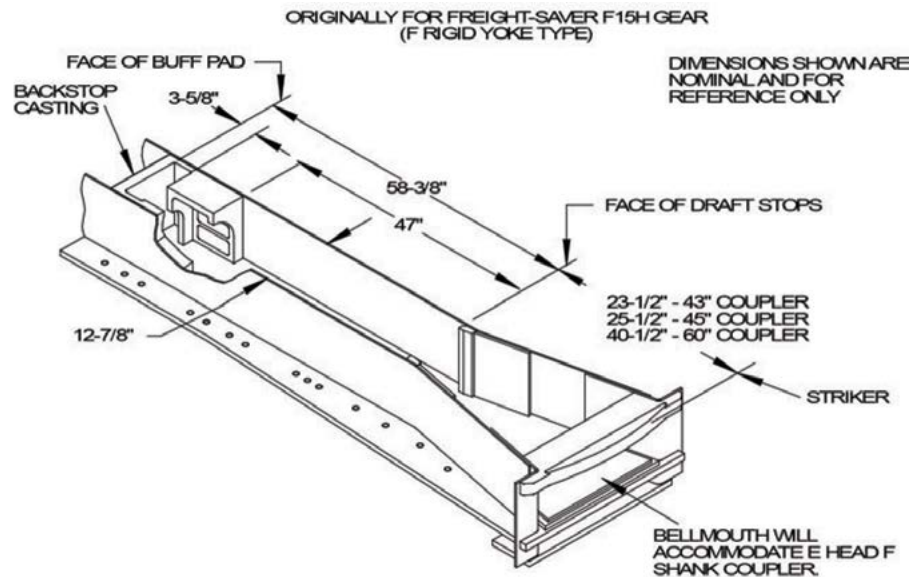
15" Travel, E69 Series Couplers

ORIGINAL CUSHIONING UNITS

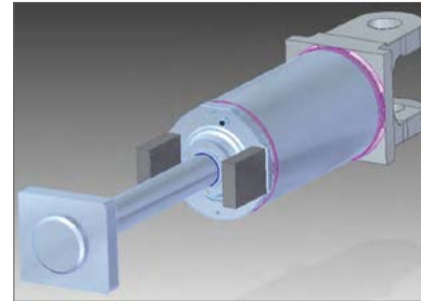


AAR Qualifier 02, Type 1

EOC-17 POCKET LAYOUT

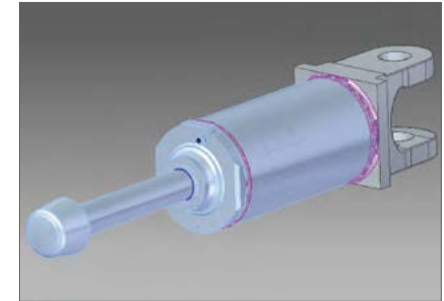


REPLACEMENT CUSHIONING UNITS



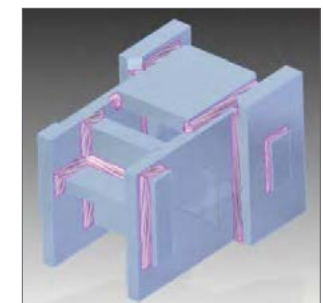
AAR Qualifier 02, Type 1

SPEC	PART NO.	MODEL
M-921D	N122	15FINCD
M-921B	N083	15FINCB



AAR Qualifier 04, Type 2

SPEC	PART NO.	MODEL
M-921D	N150	15FGRD SP
M-921D	N153	15FMD SP
M-921B	N125	15FGRB SP
M-921B	N152	15FMB SP

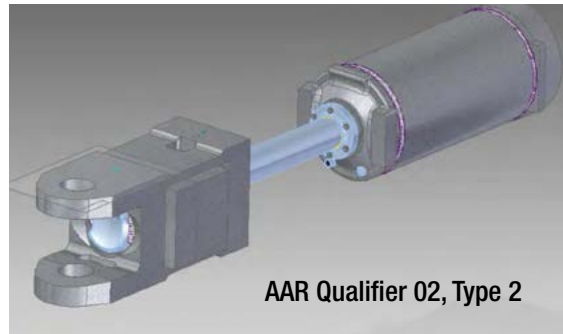


9542 adaptor
to use with Qualifier # 4,
Type 2

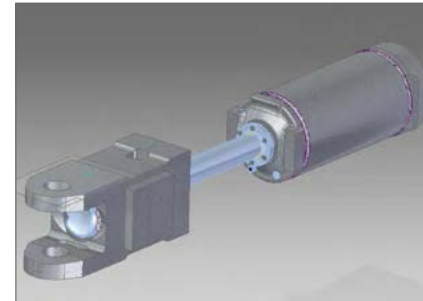
AAR Group EOC 18, 18B, 18D

15" Travel, E69 Series Couplers

ORIGINAL CUSHIONING UNITS



REPLACEMENT CUSHIONING UNITS



AAR Qualifier 02, Type 2

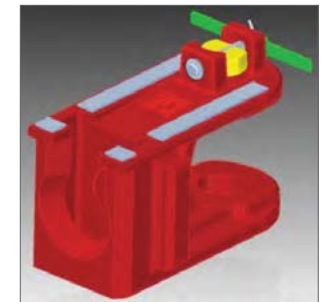
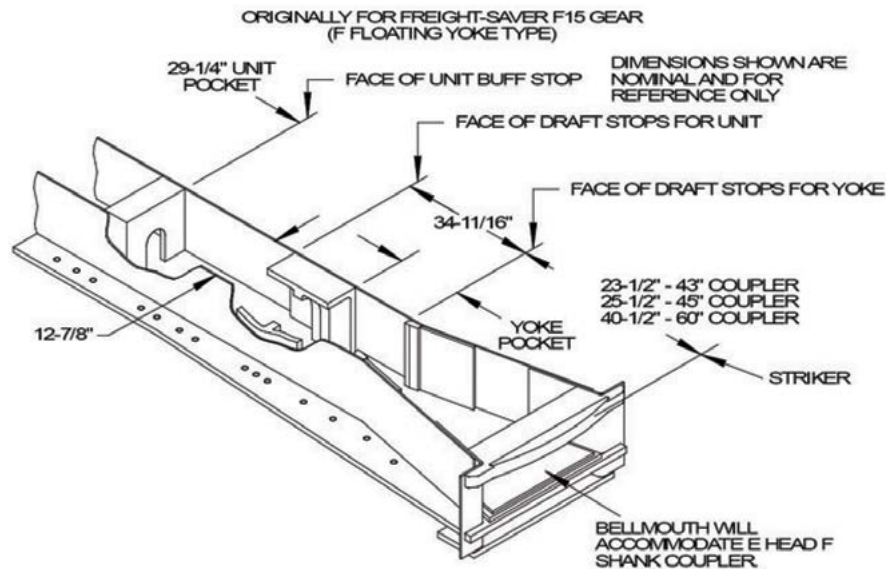
SPEC	PART NO.	MODEL
M-921B	N141	F15CB



AAR Qualifier 01D, 02B, Type 1

SPEC	PART NO.	MODEL
M-921D	N063	15FRECD
M-921B	N068	15FRECB
M-921D	N117	15FRED
M-921B	N084	15FREB

EOC-18 POCKET LAYOUT



Part Number: 5704
Yoke required for type 1 units

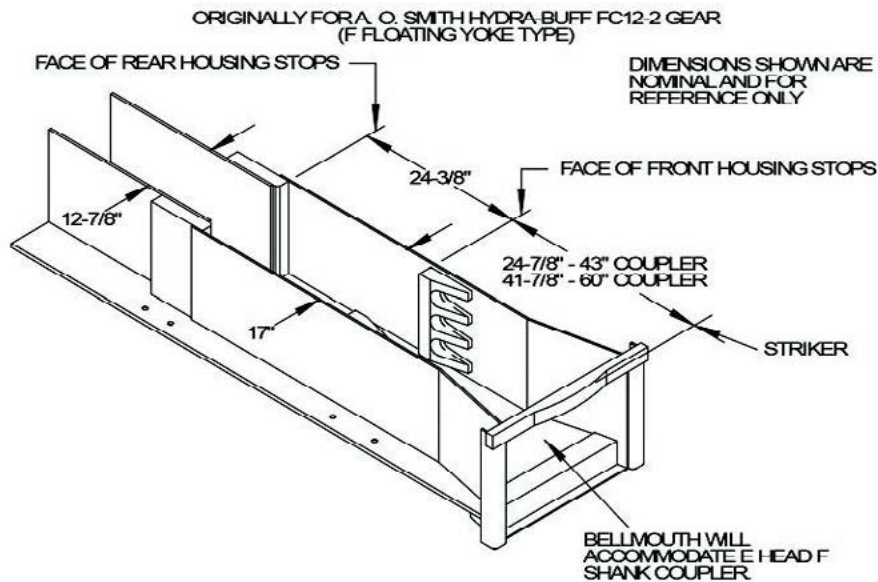
AAR Group EOC 19, 19B

14" Travel, E68 Series Couplers

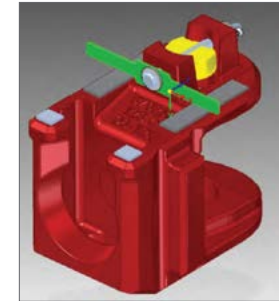
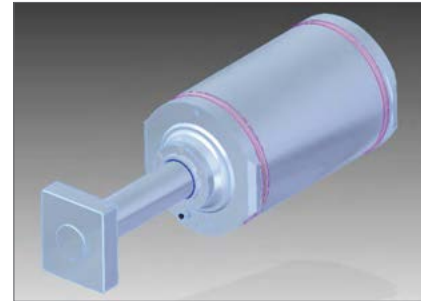
ORIGINAL CUSHIONING UNITS

AAR Qualifier 02, Type 2
A. O. Smith F12/2

EOC-19 POCKET LAYOUT



REPLACEMENT CUSHIONING UNITS



AAR Qualifier 02, Type 1

SPEC	PART NO.	MODEL
M-921B	N064	10FRECB
M-921B	N075	10FREB

Part Number: 5702

Yoke required for type 1 units

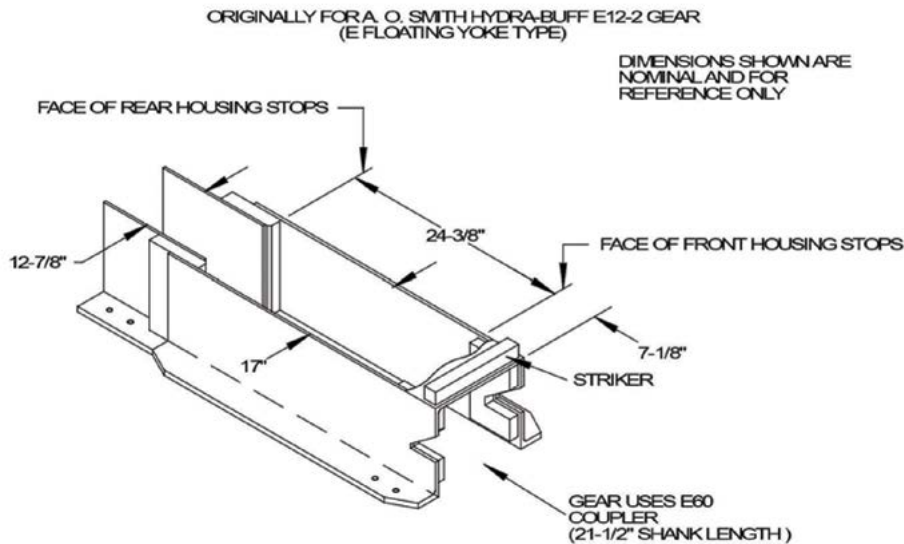
AAR Group EOC 20, 20B

14" Travel, E60 Series Couplers

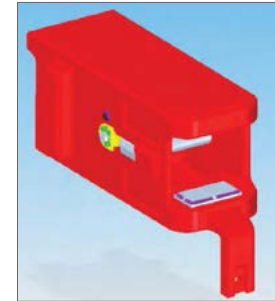
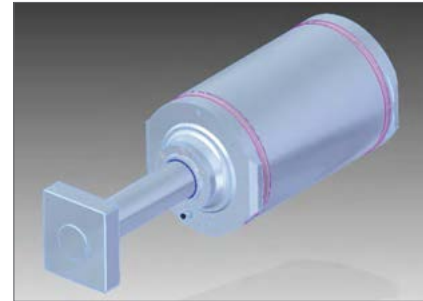
ORIGINAL CUSHIONING UNITS

AAR Qualifier 02, Type 2
A. O. Smith E12/2

EOC-20 POCKET LAYOUT



REPLACEMENT CUSHIONING UNITS



AAR Qualifier 02, Type 1

SPEC	PART NO.	MODEL
M-921B	N064	10FRECB
M-921B	N075	10FREB

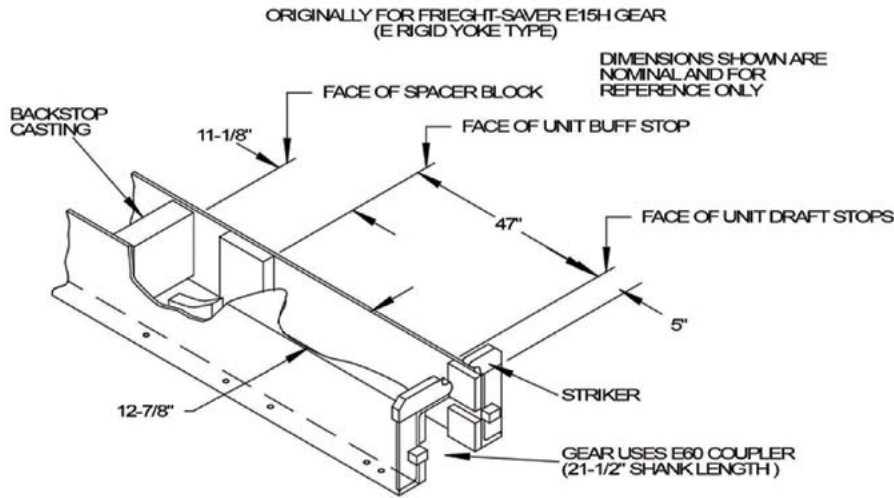
Part Number: 4608N10TB
Yoke required for type 1 units

AAR Group EOC 21, 21B 15" Travel, E60 or E67 Series Couplers

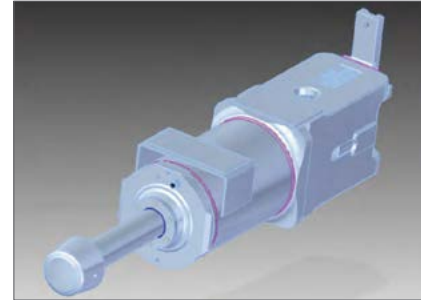
ORIGINAL CUSHIONING UNITS

AAR Qualifier 02, Type 1
ACF E-15H
FMI E15H

EOC-21 POCKET LAYOUT

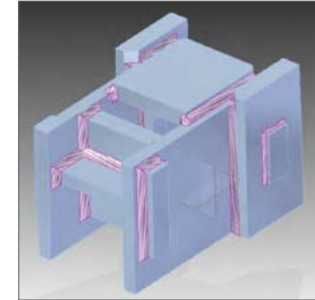


REPLACEMENT CUSHIONING UNITS



AAR Qualifier 03, Type 2

SPEC	PART NO.	MODEL
M-921B	N130TB	15FMCEB K/S
M-921B	N071TB	15FMEB TB



9542 Adaptor
to use with Qualifier # 03, type 2

AAR Group EOC 22, 22B 12" Travel, E68 Series Couplers

ORIGINAL CUSHIONING UNITS

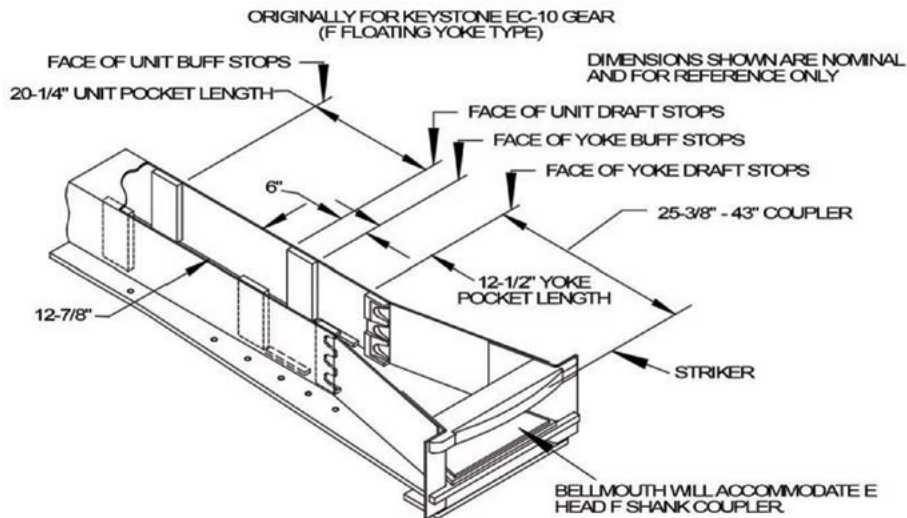
Pocket Modification Required

AAR Qualifier 02, Type 2

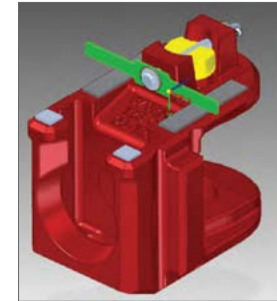
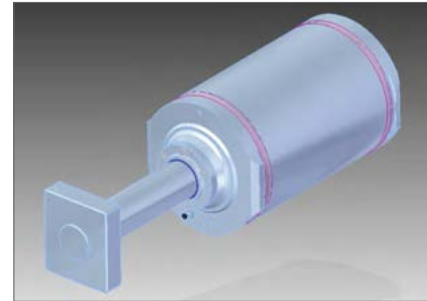
ACF F-12

FMI F-12

EOC-22 POCKET LAYOUT



REPLACEMENT CUSHIONING UNITS



AAR Qualifier 02, Type 1

SPEC	PART NO.	MODEL
M-921B	N064	10FRECB
M-921B	N075	10FREB

Part Number: 5702

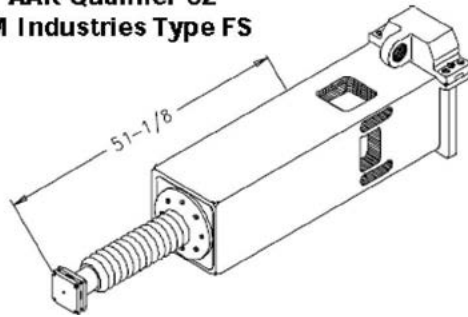
Yoke required for type 1 units

AAR Group EOC 23, 23B

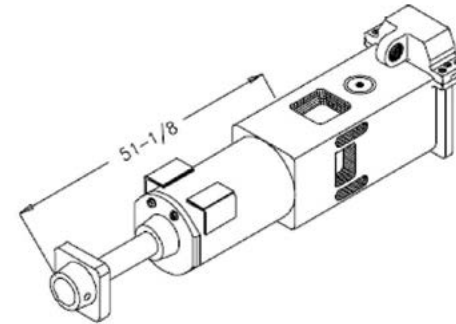
10" Travel, E68 Series Couplers

ORIGINAL CUSHIONING UNITS

AAR Qualifier 02
FM Industries Type FS



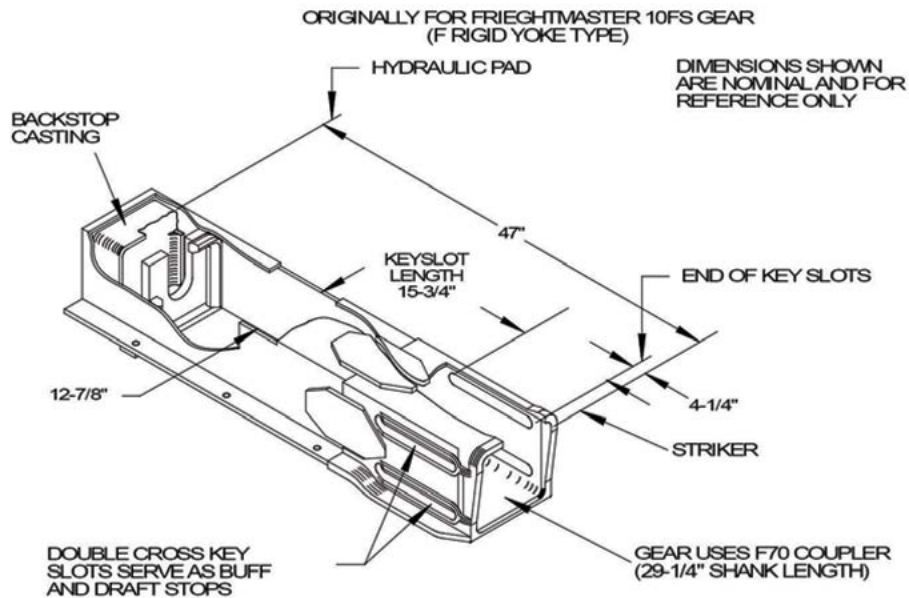
REPLACEMENT CUSHIONING UNITS



AAR Qualifier 04, Type 1

SPEC	PART NO.	MODEL
M-921B	N078	10FFSCB WR
M-921B	N114	10FFSCB TR

EOC-23 POCKET LAYOUT

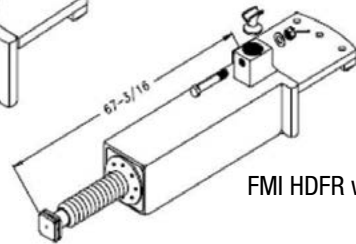
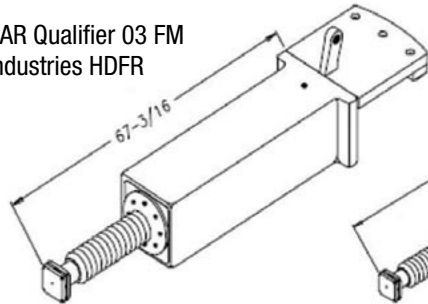


AAR Group EOC 24, 24B

15" Travel, E68 Series Couplers

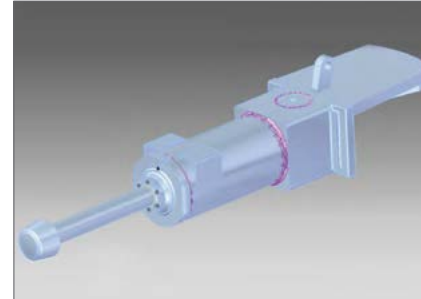
ORIGINAL CUSHIONING UNITS

AAR Qualifier 03 FM
Industries HDFR



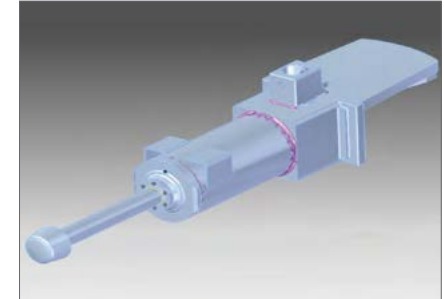
FMI HDFR with Pin Block

REPLACEMENT CUSHIONING UNITS



AAAR Qualifier 08, Type 1

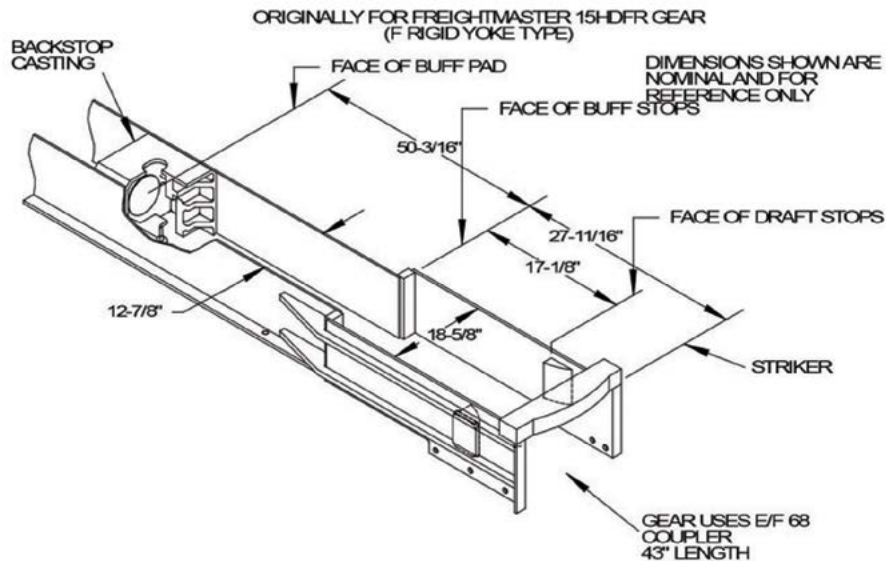
SPEC	PART NO.	MODEL
M-921B	N043	15FHCRB WR
M-921B	N113	15FHCRB TR



AAR Qualifier 09, Type 2

SPEC	PART NO.	MODEL
M-921B	N095	15FHCRB PB

EOC-24 POCKET LAYOUT

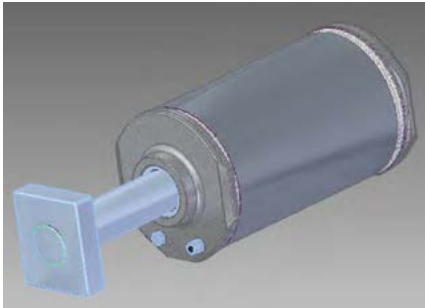


AAR Group EOC 25, 25E

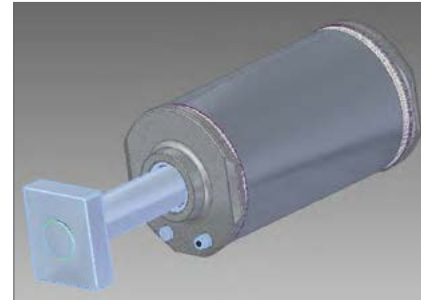
10/2" Travel, E69 Series Couplers

ORIGINAL CUSHIONING UNITS

AAR Qualifier 01, Type 1
Twin Guard Unit F-2/10 GA

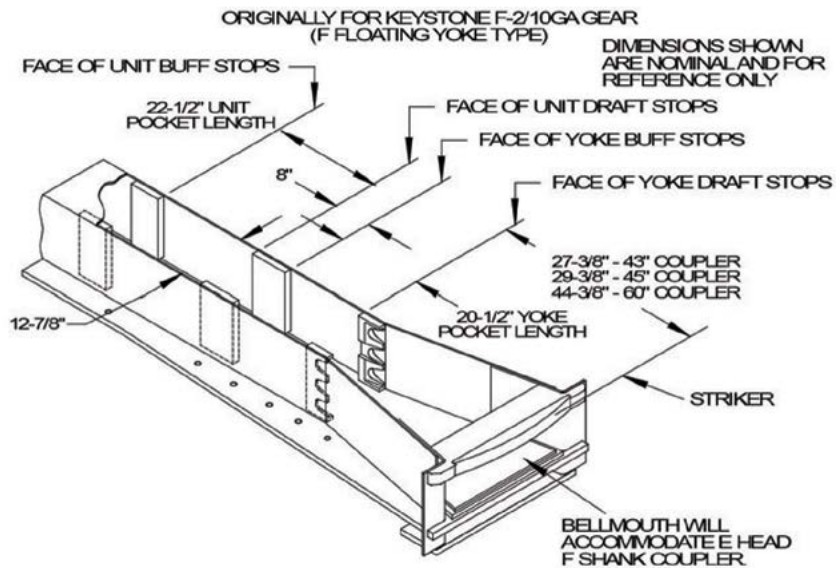


REPLACEMENT CUSHIONING UNITS



Original Yoke Part Number: 17079
*Only the unit can be replaced.
If the yoke is damaged the pocket must be modified.*

EOC-25 POCKET LAYOUT



AAR Qualifier 01, Type 1

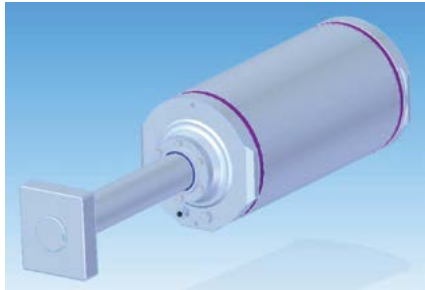
SPEC	PART NO.	MODEL
M-921E	N146	10/2RECE

AAR Group EOC 26, 26F

18" Travel, for Application with 45", 53", or 60" Series Couplers

ORIGINAL CUSHIONING UNITS

AAR Qualifier 01, 02, Type 1
KRE F-18G-B
FMI 18KN1F



REPLACEMENT CUSHIONING UNITS



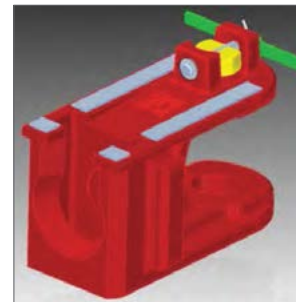
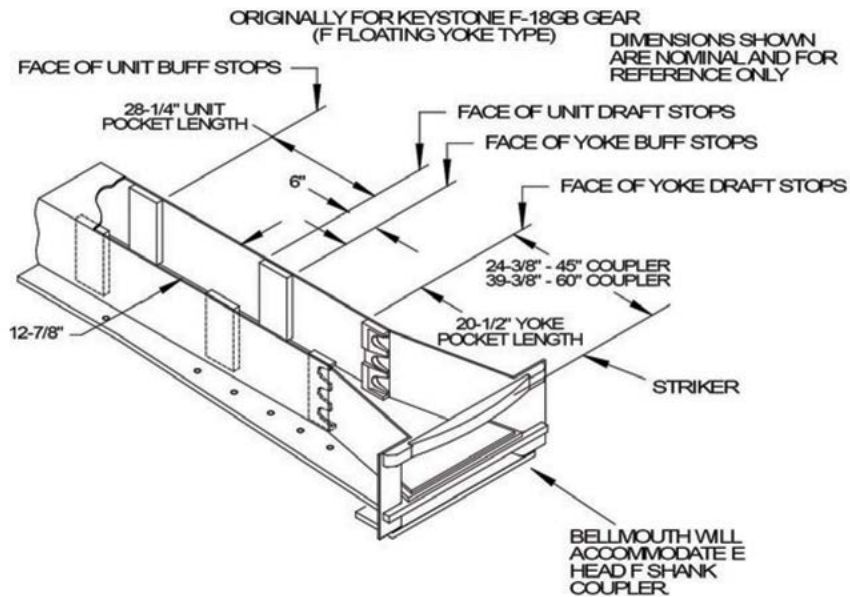
AAR Qualifier 01, Type 1

SPEC	PART NO.	MODEL
M-921B	N142	18FRECB
M-921B	N157	18FREB

AAR Qualifier 01, Type 1

SPEC	PART NO.	MODEL
M-921F	N119	16/2RECF

EOC-26 POCKET LAYOUT



Part Number: 5704
Yoke required for type 1 units

AAR Group EOC 27, 27D

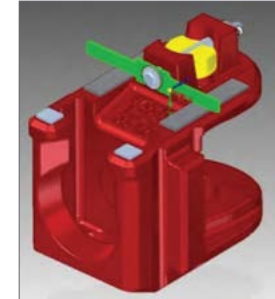
10" Travel, for Application with 43", 45", or 60" Series Couplers

ORIGINAL CUSHIONING UNITS

AAR Qualifier 01, Type 1
10FRECD LD



REPLACEMENT CUSHIONING UNITS



AAR Qualifier 01, Type 1

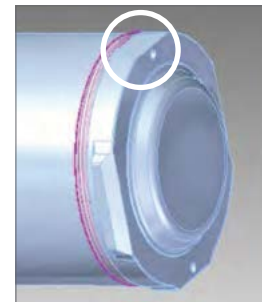
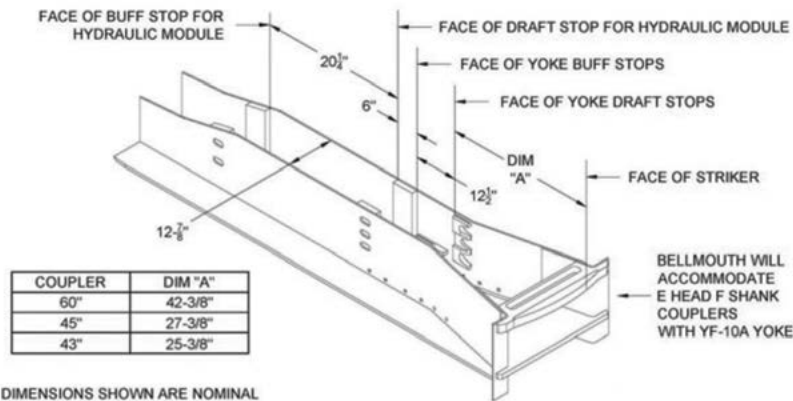
SPEC	PART NO.	MODEL
M-921D	N136	10RECD LD
M-921D	N036	10FRED LD
M-921E	N077	TYPE 2 9/1 REE

Part Number: 5702

Yoke required for type 1 units

EOC-27 POCKET LAYOUT

Originally for Keystone F-10G LD



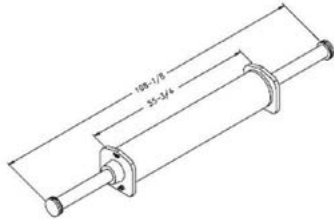
Top of rear end cap beveled for pocket clearance

EOC-27 USES THE SAME HYDRAULIC DRAFT GEARS, YOKES AND COUPLERS AS EOC-9. TYPICAL CONFIGURATION SHOWN WITHOUT HYDRAULIC DRAFT GEAR, CARRIER PLATE AND COUPLER. SEE M.I. 15-229 FOR THIS INFORMATION.

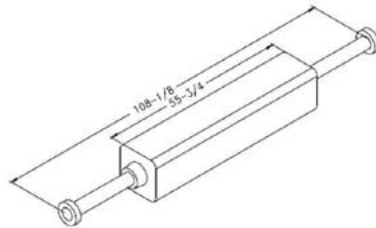
AAR Group COC 1 20" Travel

ORIGINAL CUSHIONING UNITS

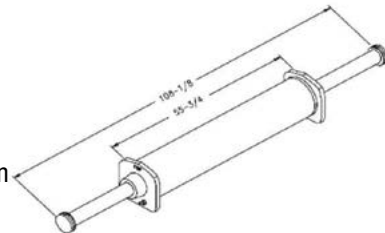
AAR Qualifier 03
Keystone DA-20



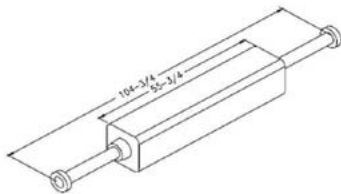
AAR Qualifier 02
AO Smith Cushion Ride



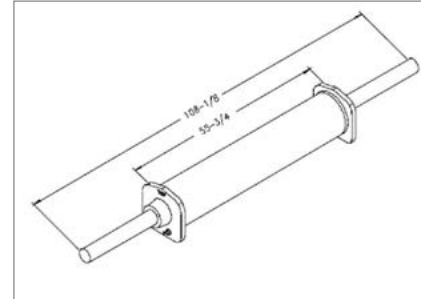
AAR Qualifier 01
Rockwell Cargo Cushion



AAR Qualifier 11
ATSF Shock Control

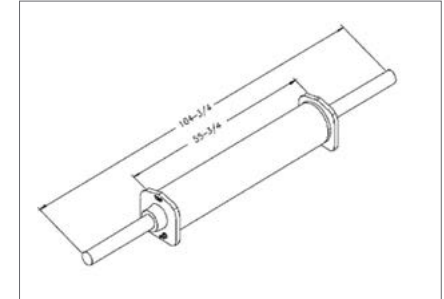


REPLACEMENT CUSHIONING UNITS



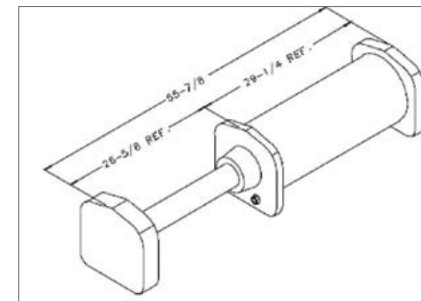
AAR Qualifier 06, Type 1

SPEC	PART NO.	MODEL
M-921A	R106	DA20-70
M-921A	R107	DA20-100
M-921A	R119	DA20G



AAR Qualifier 11, Type 2

SPEC	PART NO.	MODEL
M-921A	R118	DA20 ATSF



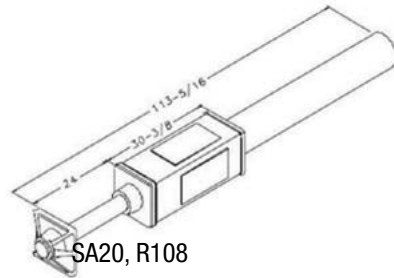
AAR Qualifier 08, Type 4

SPEC	PART NO.	MODEL
M-921A	R115	SA18G

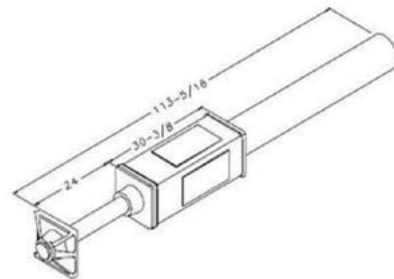
AAR Group COC 2 20" Travel – American 12-7/8" Sill

ORIGINAL CUSHIONING UNITS

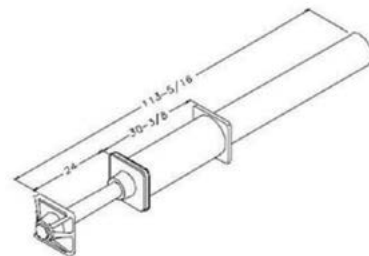
AAR Qualifier 01
Keystone SA-20



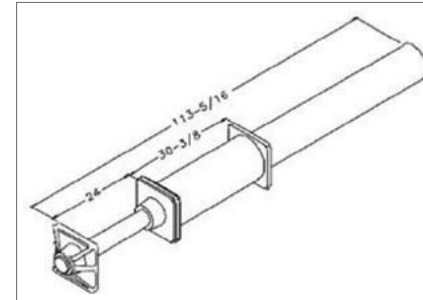
AAR Qualifier 02
Keystone SA-20A



AAR Qualifier 03/02
Keystone SA-20MS/
SA-20A

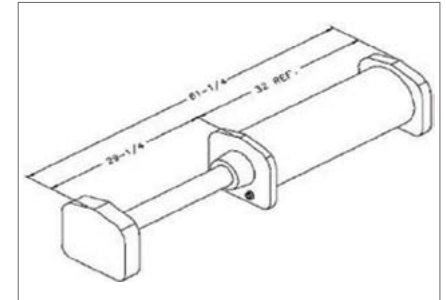


REPLACEMENT CUSHIONING UNITS



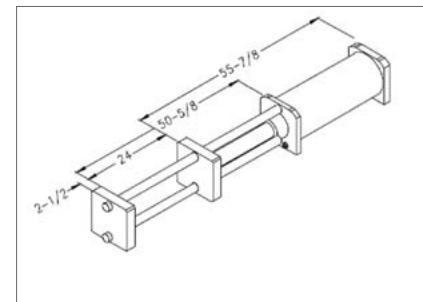
AAR Qualifier 07, Type 2

SPEC	PART NO.	MODEL
M-921A	R110	SA20MS



AAR Qualifier 04, Type 3

SPEC	PART NO.	MODEL
M-921A	R111	SA20G
M-921A	N139	20N



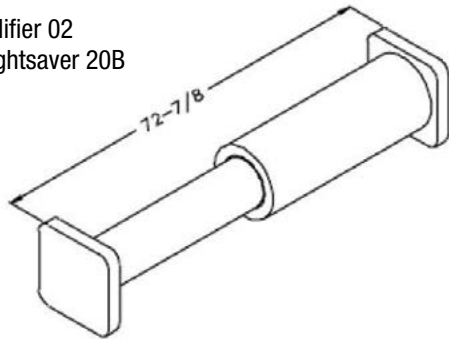
AAR Qualifier 08, Type 4

SPEC	PART NO.	MODEL
M-921A	R116	SAGMS

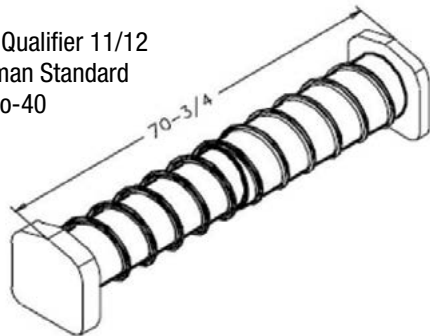
AAR Group COC 4 20" Travel – American 12-7/8" Sill

ORIGINAL CUSHIONING UNITS

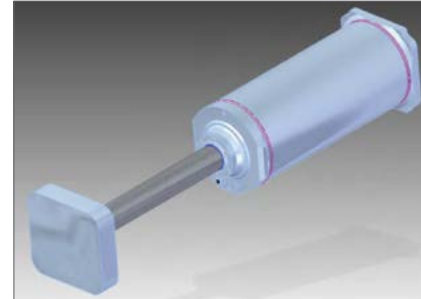
AAR Qualifier 02
ACF Freightsaver 20B



AAR Qualifier 11/12
Pullman Standard
Hydro-40

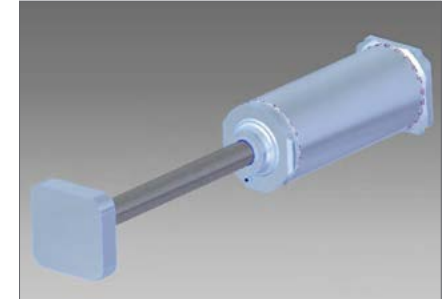


REPLACEMENT CUSHIONING UNITS



AAR Qualifier 14, Type 2

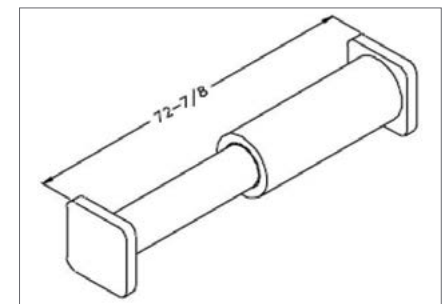
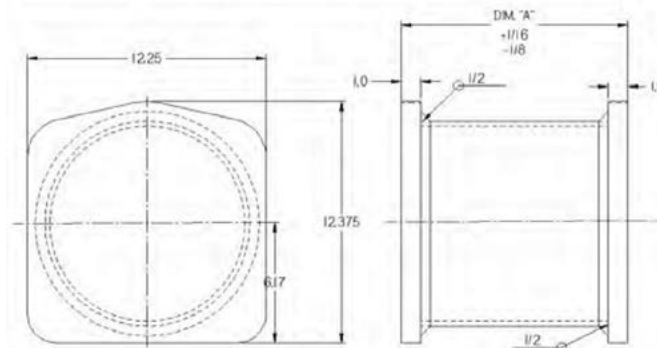
SPEC	PART NO.	MODEL
M-921A	R111	SA20G 61-1/4" LONG
M-921A	R111+	SA20G W/ 11-5/8" FILLER BLOCK 72-7/8"
M-921A	N139	20N 61-1/4" LONG



AAR Qualifier 15, Type 3

SPEC	PART NO.	MODEL
M-921A	R120 20PSN	70-3/4" LONG
M-921A	N149 20PSN	70-3/4" LONG

FILLER BLOCK OVERALL LENGTHS			
PART #	FOR UNIT TYPE	LENGTH DIM. "A"	Stock Code
AH-8017A	F20B	11.625"	AH8017A
AH-8017B	F30B & HYDRAFRAME 60	37.0"	AH8017B
AH-8017C	NATIONAL 3C	29.25"	AH8017C
AH-8017D	HYDRAFRAME 40	9.5"	AH8017D



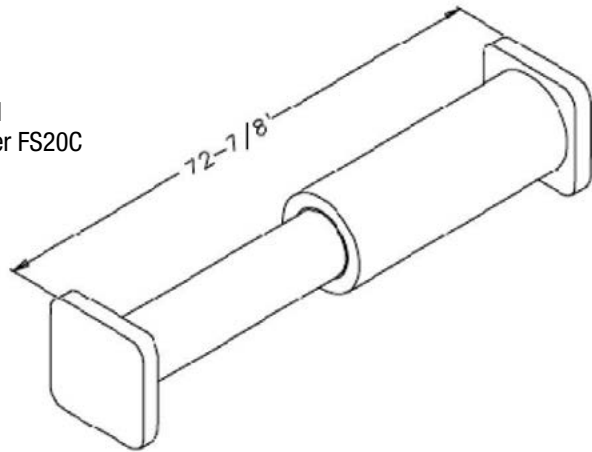
AAR Qualifier 06, Type 1

SPEC	PART NO.	MODEL
M-921A	R104	F20B

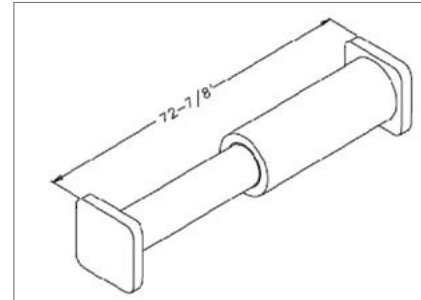
AAR Group COC 5 20" Travel – Canadian Narrow Sill

ORIGINAL CUSHIONING UNITS

AAR Qualifier 01
ACF Freightsaver FS20C

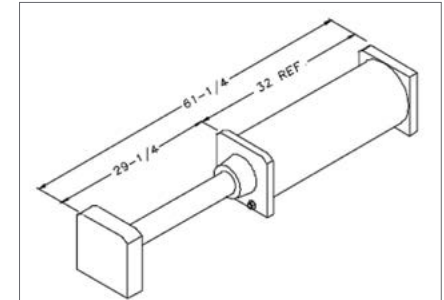


REPLACEMENT CUSHIONING UNITS



AAR Qualifier 03, Type 1

SPEC	PART NO.	MODEL
M-921A	N140	F20C



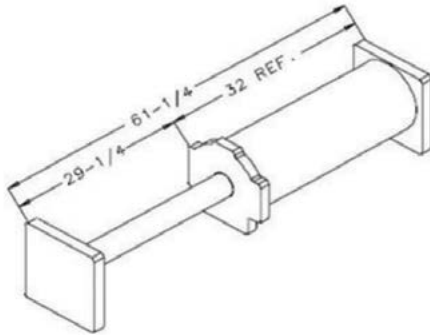
AAR Qualifier 04, Type 2

SPEC	PART NO.	MODEL
M-921A	N133	SA20GM

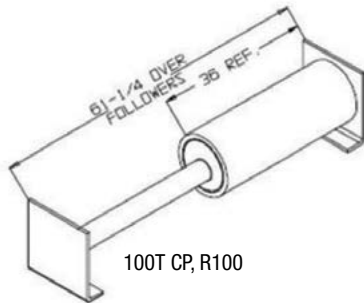
AAR Group COC 6 20" Travel

ORIGINAL CUSHIONING UNITS

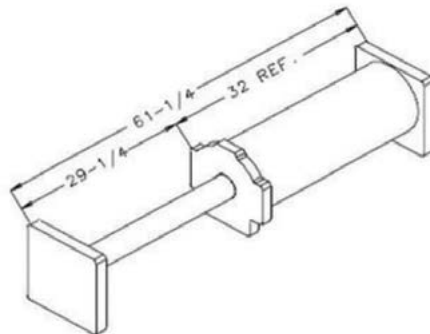
AAR Qualifier 02
Dresser Cushion II



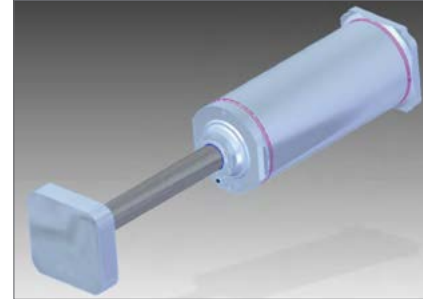
AAR Qualifier 01
Evans Cushion Pac



AAR Qualifier 03
FM Industries 20N



REPLACEMENT CUSHIONING UNITS



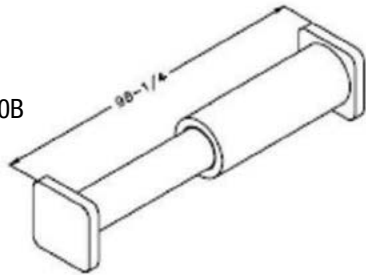
AAR Qualifier 04, Type 1

SPEC	PART NO.	MODEL
M-921A	R111	SA20G
M-921A	N139	20N

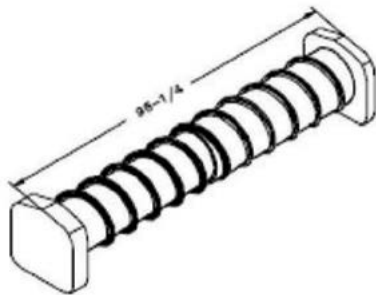
AAR Group COC 7 30" Travel

ORIGINAL CUSHIONING UNITS

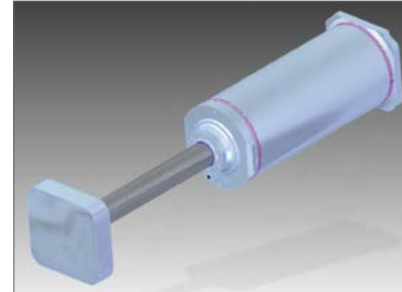
AAR Qualifier 03
FM Industries FS-30B



AAR Qualifier 10
Trinity Hydro-60

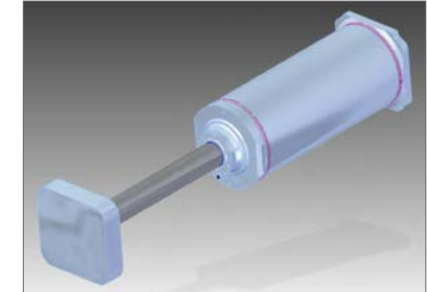


REPLACEMENT CUSHIONING UNITS



AAR Qualifier 04, Type 1

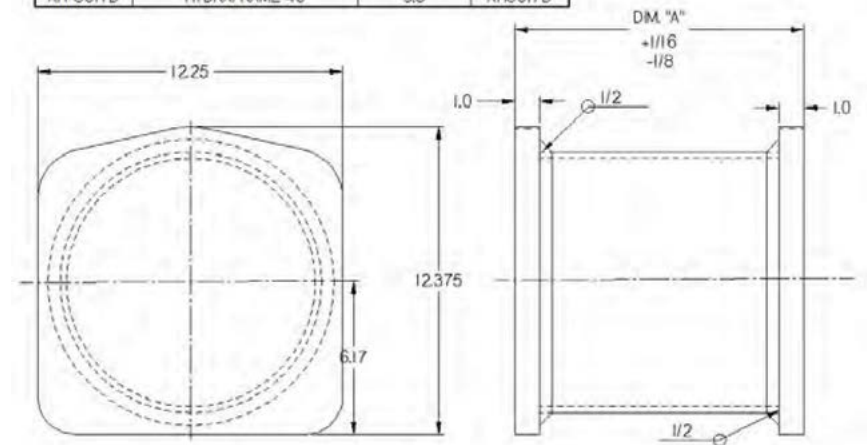
SPEC	PART NO.	MODEL
M-921A	N143	30BN



AAR Qualifier 12, Type 2

SPEC	PART NO.	MODEL
M-921A	R111	SA20G W/ AH8017B FILLER
M-921A	N139	20N W/ AH8017B FILLER

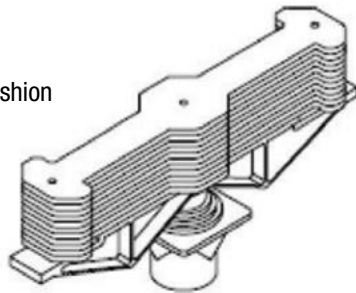
FILLER BLOCK OVERALL LENGTHS			
PART #	FOR UNIT TYPE	LENGTH DIM. "A"	Stock Code
AH-8017A	F 20B	11.625"	AH8017A
AH-8017B	F30B & HYDRAFRAME 60	37.0"	AH8017B
AH-8017C	NATIONAL 3C	29.25"	AH8017C
AH-8017D	HYDRAFRAME 40	9.5	AH8017D



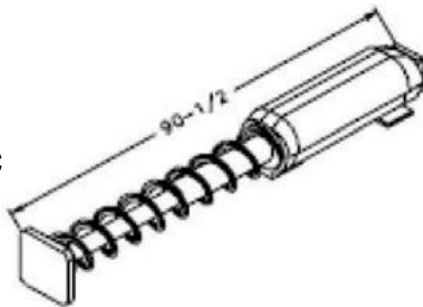
Dresser Application / National Application 20" Travel

ORIGINAL CUSHIONING UNITS

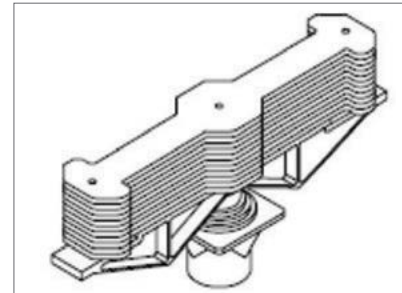
Dresser Hydracushion



National 3C

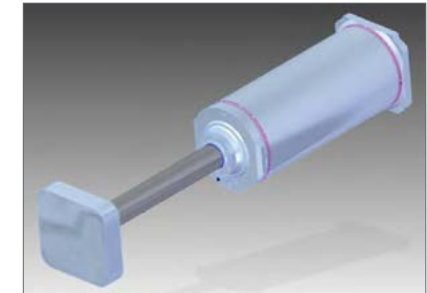


REPLACEMENT CUSHIONING UNITS



AAR Qualifier 07, Type 1

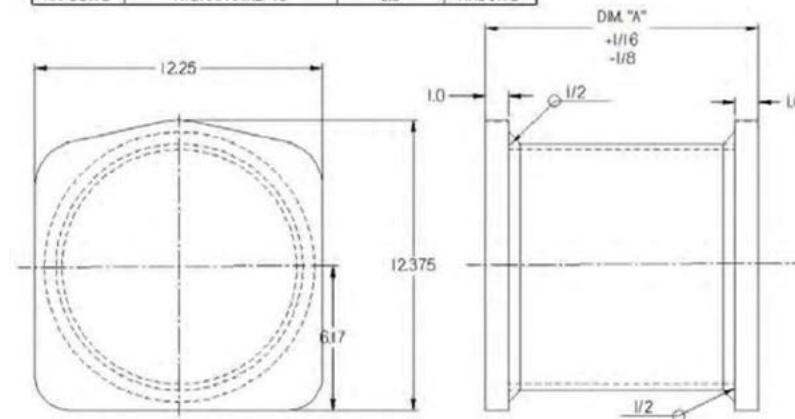
SPEC	PART NO.	MODEL
M-921A	R101	HCU



AAR Qualifier 09, Type 2

SPEC	PART NO.	MODEL
M-921A	R111	SA20G W/ AH8017C FILLER
M-921A	N139	20N W/ AH8017C FILLER

FILLER BLOCK OVERALL LENGTHS			
PART #	FOR UNIT TYPE	LENGTH DIM "A"	Stock Code
AH-8017A	F20B	11.625"	AH8017A
AH-8017B	F30B & HYDRAFRAME 60	37.0"	AH8017B
AH-8017C	NATIONAL 3C	29.25"	AH8017C
AH-8017D	HYDRAFRAME 40	9.5"	AH8017D



Gas Return Cushioning Devices General Inspection and Maintenance Instructions

CAUTION: All models of Cushioning Units gas return cushioning devices are highly pressurized with nitrogen. Do not attempt to service this equipment before fully reading and understanding the service maintenance instructions and procedures.

I. INSPECTION

A. Examine the application and repair as necessary:

1. Visually examine unit support, carrier plate, rod end support (if applicable), and trainline for damage. Sliding Sills must be centered.
2. Check that all bolts are in place and tight.
 - a) Recommended bolt torque:
 - 7/8" - 9UNC - 500ft. - lbs.
 - 3/4" - 10UNC - 350ft. - lbs.
 - 5/8" - 11UNC - 200ft. - lbs.
3. Visually examine all sliding surfaces for evidence of excessive wearing or galling.
4. Examine draft lugs, unit stops or backstops, yoke and all welds for cracks or other damage.
5. Check that coupler carrier is in good condition and that coupler is shimmed properly in accordance with AAR Interchange rules 16, 17, or 18 as applicable.
6. Check that the draft key or draft pin and retainer hardware are intact and in good condition.
7. Visually examine the unit for excessive oil leakage.

NOTE: The unit allows for a very small amount of oil lubrication to the shaft. Oil stains should not cause concern unless they are extremely heavy and fresh clearly formed droplets are present.

B. Gas pressure check procedure

CAUTION: Do not remove oil fill straight thread o-ring plug. Injury may result from removing fill plug prior to completely exhausting gas pressure. If the oil fill plug is accidentally loosened, a fluid and nitrogen mixture will spray out of a safety warning hole in the side of the plug.

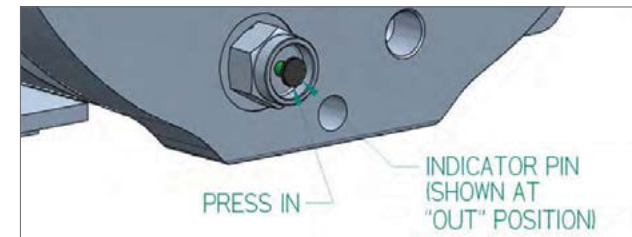
1. For units with a 5/8" hole at charge location. See Section II: MAINTENANCE – AH MANIFOLD SYSTEM
2. For units with a 1" Straight Thread Oring Cap in charge location use Section III: MAINTENANCE – SCHRADER VALVE MANIFOLD SYSTEM

C. UCI pressure indicator operation

NOTE: The Cushioning Units UCI () is normally installed in EOC units built since December 1995. The UCI is installed in place of the oil fill straight thread oring plug.*

1. For units equipped with the Cushioning Units UCI:
 - a) UCI Standard torque requirements, 95 ft. /lbs.
 - b) UCI Operation

The UCI functions as a gage of gas pressure. The UCI can be used to inspect a unit as shipped, on the ground, or in the sill. Simply locate the UCI and attempt to press in the indicator pin. Use the Table below to determine unit condition. If unacceptable, and there is no evidence of excessive oil leakage, the unit may be charged with nitrogen gas per Section II. A: GAS PRESSURE CHARGE PROCEDURE.



POSITION OF THE INDICATOR PIN	UNIT CONDITION
Pin is extended out and is hard to push in.	Acceptable
Pin pushes in and returns out. (May not return all at once)	Acceptable
Pin pushes in and stays in.	Unacceptable
Pin already in.	Unacceptable

c) UCI Maintenance:

The UCI can be cleaned by removing any foreign matter on or near the indicator pin. Use a clean cloth. Avoid using compressed air which may push matter in the indicator pin hole.

Gas Return Cushioning Devices General Inspection and Maintenance Instructions

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 - 3/4" - 10UNC - 350ft. - lbs.
 - 5/8" - 11UNC - 200ft. - lbs.
3. Visually examine all sliding surfaces for evidence of excessive wearing or galling.
4. Examine draft lugs, unit stops or backstops, yoke and all welds for cracks or other damage.
5. Check that coupler carrier is in good condition and that coupler is shimmed properly in accordance with AAR Interchange rules 16, 17, or 18 as applicable.
6. Check that the draft key or draft pin and retainer hardware are intact and in good condition.
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NOTE: The unit allows for a very small amount of oil lubrication to the shaft. Oil stains should not cause concern unless they are extremely heavy and fresh clearly formed droplets are present.

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Pin already in.	Unacceptable

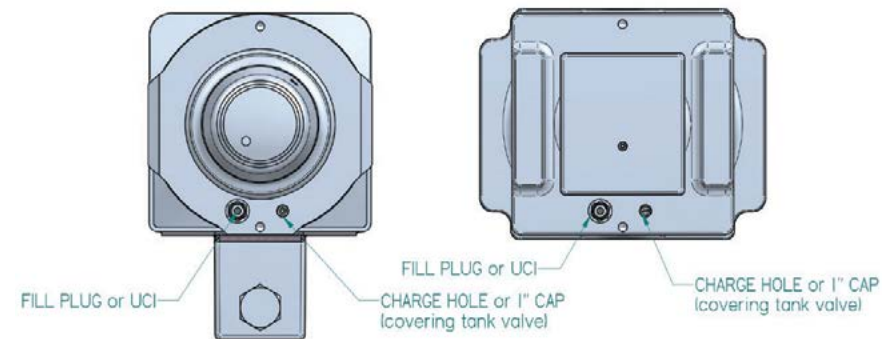
c) UCI Maintenance:

The UCI can be cleaned by removing any foreign matter on or near the indicator pin. Use a clean cloth. Avoid using compressed air which may push matter in the indicator pin hole.

2. For units equipped with fill plug (no UCI):

- a) Using a 1" hex socket, remove the charge plug located next to the raised or stamped letter "C" on the lower right of the unit head as shown in Figure 1. The charge tank valve will be under the oring cap. See section III: MAINTENANCE – SCHRADER VALVE MANIFOLD SYSTEM
- b) New and Units converted by Cushioning Units will have only a 5/8" hole, with a European type charge valve seated below the surface of the end cap. A machine screw threads into the end of the European valve body to protect the threads of the valve. See section II: MAINTENANCE – AH MANIFOLD SYSTEM.

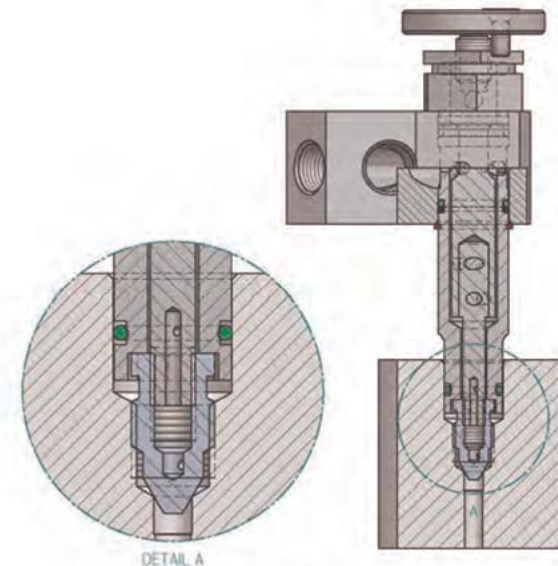
FIGURE 1 TYPICAL FILL AND CHARGE PLUG LOCATIONS



II. MAINTENANCE – AH MANIFOLD SYSTEM

A. Gas pressure charge procedure (Running Unit Pressure Testing & Charging)

1. Unit may be checked in or out of car.
2. Unit may be in vertical or horizontal.
3. Applying "NITROGEN" charge manifold and charging unit:
 - a) Place small end with O-ring seal in charge hole.
 - b) Turn Pressure Relief Handle to start threading the Charge Stem into the Charge Valve.
 - c) Make sure that the Charge Valve shoulder has seated into the recess of the Manifold.
 - d) Do not over tighten with wrench.



4. Charging or Checking

- (1) If just checking existing unit pressure use a plugged manifold with pressure gage only. Open Charge Valve by turning the 1" Hex below the Pressure Relief Handle counter clockwise to get pressure reading only. If below 200 psi and no signs of excessive leaking you can recharge the unit. When finished tighten the 1" Hex in a clockwise direction to close off the valve. Continue with step 4. e) to remove the manifold.
- (2) If charging unit continue with step 4. a).
- a) With Manifold applied, turn "NITROGEN" bottle on and apply 300 psi. to protect from a back pressure of gas and oil into the Manifold.
- b) Open Charge Valve by turning the 1" Hex below the Pressure Relief Handle counter clockwise to start the flow of gas into the unit.
- c) Adjust pressure regulator to achieve appropriate psi. and hold for (2) Two minutes to equalize the pressure between the unit and the regulator.
 - (1) (350 psi.) for all EOC units. (This does not apply to "COC Units See Appendix "A")
- d) When pressure has equalized, re-tighten the 1" Hex to close off the unit pressure, and then back off the regulator, and then shut off the "NITROGEN" bottle.
- e) Turn Pressure Relief Handle counter clockwise to release the pressure in the hose and Manifold.
- f) Continue to turn Pressure Relief Handle to back off the Manifold from the Charge Valve.
- g) With soapy water test the Charge Valve for leaks, re-tighten if necessary.

B. Uncharged storage unit

1. Unit instructions are the same as Section "A" above except for the charge pressure.
 - a) Uncharged Unit Charge pressure is different than a unit that has been running keeping the oil and nitrogen gas mixed.
 - b) Running Unit
 - (1) Nitrogen gas absorbs into the oil making an emulsified fluid when stroked (cycled).
 - (a) Internal pressure drops by almost 100 psi.
 - c) Re-Charge Pressure
 - (a) 350
 - d) Uncharged Storage Unit
 - (1) Nitrogen gas has not been introduced to the unit yet.
 - (a) Internal Pressure will drop 100 psi. when cycled the first time.
 - (2) Initial Charge Pressure
 - (a) 440-450 psi.

C. Bleeding pressure off to reduce length

This Procedure is for "Multi-Travel Units that are pre-gagged to 15", and need to be shortened for 10" or 12" Travel Pockets or Units that are removed from the car and are extended beyond pocket length, and need the gas removed to reinstall.

1. With unit removed from car and support vertical and or tipped at angle to elevate charge hole to the most top position.
2. Let stand at this position for (20) twenty minutes or longer to let gas and oil separate.
3. Applying "NITROGEN" charge manifold and charging unit.
 - a) Place small end with O-ring seal in charge hole.
 - b) Turn Pressure Relief Handle to start threading the Charge Stem into the Charge Valve.
 - c) Make sure that the Charge Valve shoulder has seated into the recess of the Manifold.
 - d) Do not over tighten with wrench.
 - e) With Manifold applied, turn Pressure Relief Handle counter clockwise just enough to start the flow of gas from the unit.
 - f) Bleed the gas from the unit, but try not to lose oil. (If foamy let stand to separate longer.)
 - g) After pressure released, re-tighten Charge Valve and remove Manifold.
 - h) Compress unit to a dimension less than the pocket size and install.
4. After installation follow Section II, A: GAS PRESSURE CHARGE PROCEDURE.

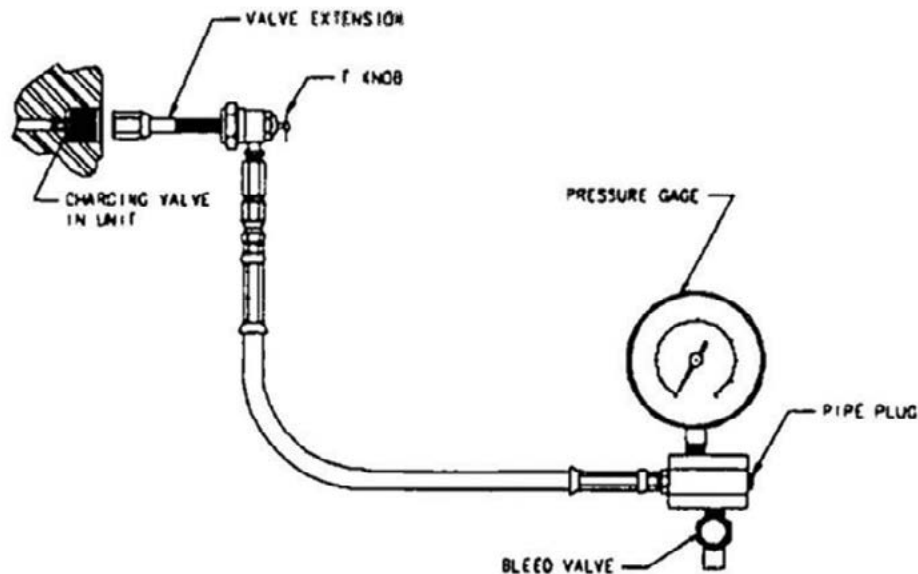
III. MAINTENANCE – SCHRADER VALVE MANIFOLD SYSTEM (Keystone, FMI)

A. Gas pressure charge procedure (Running Unit Pressure Testing & Charging)

1. For units using Schrader Tank Valve
 - a) Using a 1" hex socket, remove the charge plug located next to the raised or stamped letter "C" on the lower right of the unit head as shown in Figure 1. The charge tank valve will be under the o-ring cap.)
 - b) Refer to Figure 2. Turn valve extension onto the charging valve body of unit. "Snug" down with 7/16" deep socket and thumb wheel. Do not overtighten.



FIGURE 2 Gage assembly part No. 9555



- c) Fully retract valve pin on high pressure valve by turning the "T" knob counterclockwise.
- d) Attach high pressure valve slip nut to valve extension. "Snug" down with small 6" adjustable wrench.
- e) Turn the "T" knob clockwise until the gage assembly is pressurized.
- f) Read the pressure. **Minimum allowable gas pressure is 200 psi.** Gas pressure may range up to 1200 psi. Temperature is not important.
- g) If gas pressure is less than 200 psi, and there is no evidence of excessive oil leakage, the unit maybe charged with nitrogen gas per Section II.
- h) If gas pressure is 200 psi or greater, remove the gage assembly by following the steps below:
 - (1) To remove gage assembly, first fully retract valve pin on inflation connector by turning "T" knob counterclockwise.
 - (2) Open bleed valve to vent off gas trapped in gage assembly.
 - (3) Remove gage assembly, and then install charge plug and torque to approximately 125ft. -lbs.

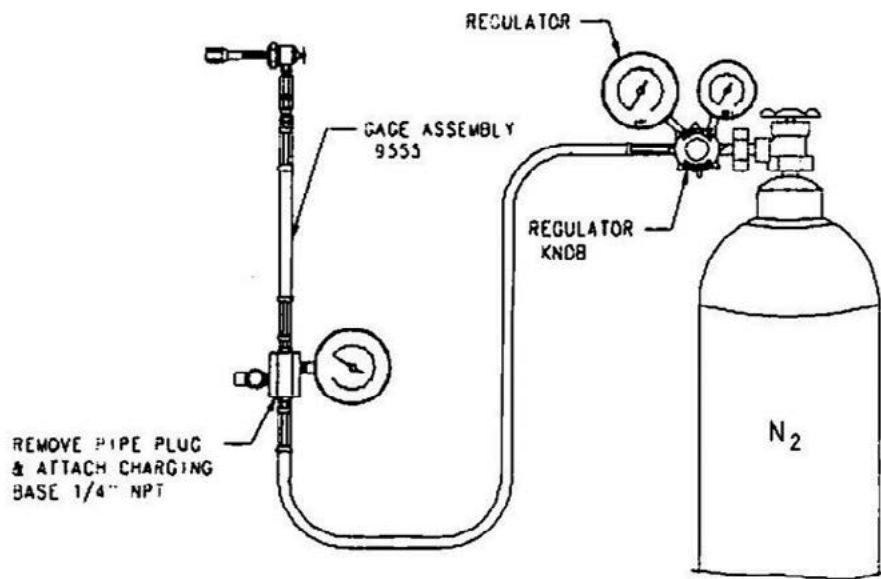
B. Gas pressure charge procedure

CAUTION: Do not remove oil fill plug. Injury may result from removing fill plug prior to completely draining gas pressure. If the oil fill plug is accidentally loosened, a fluid and nitrogen mixture will spray out of a safety warning hole in the side of the plug.

1. Check gas pressure per the instructions given in Section I. A. Gas pressure check procedure, to verify that gas charging is required.
2. Remove gage assembly per Step h. in Section I. A., and attach inflating hose as shown in Figure 3. Remove the '1/4" NPT pipe plug and attach a suitable hose with regulator.

CAUTION: All fittings used must be high pressure, (3000 psi) type.

FIGURE 3

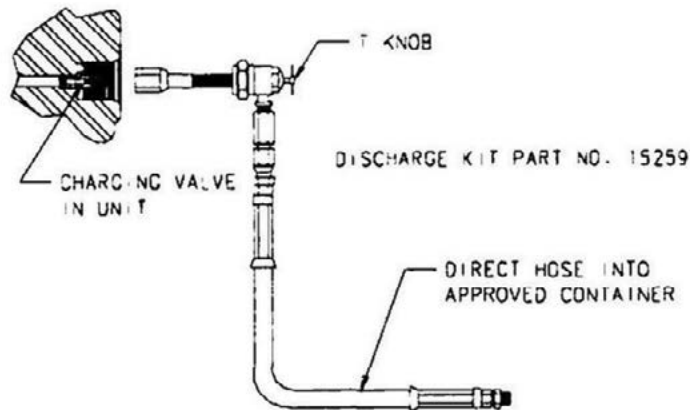


3. Check that the valve pin is fully retracted and that bleed valve is closed.
4. Reattach gage assembly to charging valve and tighten to approximately 5 ft.- lbs. (Hand tight).
5. Turn pressure regulator knob fully counterclockwise to insure that regulator pressure is below 600 psi.
6. Turn the "T" knob on gage assembly clockwise until charging valve pin is engaged.
7. Turn on nitrogen gas main supply valve.
8. Pressurize EOC (end-of-car) units to 750 psi and COC (center-of-car) units to 1200 psi by slowly turning pressure regulator knob clockwise. Hold pressure on the unit for at least 3 minutes. Temperature is not important.
9. Fully retract valve pin on gage assembly.
10. Turn the pressure regulator knob counterclockwise.
11. Turn off main gas supply.
12. Open bleed valve to vent off trapped pressure in the lines, regulator and gage assembly.
13. Remove gage assembly, and then install charge plug and torque to approximately 125ft.-lbs.
14. Stencil in 1 inch letters on side of center sill, "Gas Charged", month, day, year, XXX "psi."

C. Gas pressure discharge procedure

1. Remove charge plug located at the raised letter "C" on the lower right of the unit head as shown in Figure 1. Note: Not all end caps have the letter "C".
2. Refer to Figure 4. Turn valve extension on to valve body of unit. "Snug" down with 7/16" deep socket and thumb wheel. Do not over tighten.

FIGURE 4



3. Fully retract valve extension on to valve body by turning the "T" knob counter clockwise
4. Attach high pressure valve slip nut to valve extension. "Snug" down with small 6" adjustable wrench.
5. Slowly turn "T" knob on high pressure valve clockwise until gas flow is heard venting from unit. Hold discharge tube securely while directing gas/oil discharge in to receptacle. Do not overturn "T" knob to ensure controlled discharge.
6. Allow unit to discharge until gas is no longer exhausted from unit.
7. To ensure full discharge, slowly turn (Clockwise) "T" knob to fully depress valve core. If gas is no longer exhausted, retract high pressure valve (turning- the "T" knob counter clockwise) and remove discharge assembly.
8. "Squeeze" unit off stops. If unit does not return, then all gas has been vented and unit is safe to remove from car. If unit does return, then procedure must be repeated to further vent the gas
9. To ensure no gas build-up, remove the valve core after all gas has been vented, and prior to unit removal from car.

CAUTION: Always use face shield when performing these procedures on all gas return units!

IV. DISCHARGING UNIT FOR EOC POCKET REPAIR (Either style)

A. Gas pressure discharge

1. Using the correct procedures above for the style of Charging System on the unit remove the oil from the unit, and capture the oil in a clean container for the purpose of returning the removed oil back into the unit prior to the re-installation or for measuring the amount of oil removed to reapply new oil of the same amount back into the unit.
2. In either case you use whether returning the same oil or replacing with new you never want to add more than you have removed due to over filling the unit and causing the unit to bulge and/or burst from being over filled.
3. After removing enough oil to reduce the unit length to remove from the car pocket set the unit aside to replace the oil.

B. Replacing the unit oil removed

1. To replace the oil stand the unit upright or with the shaft end and UCI elevated above a 45° to remove the UCI (Unit Condition Indicator) without any more loss of oil.
2. Remove the UCI which has a larger fill hole opening into the cushioning unit to reapply the oil
3. Place a funnel into the UCI hole and reapply the removed oil and/ or the new oil equivalent back into the unit. If necessary raise shaft end up higher to achieve more space for oil.
4. After oil is replaced reapply the UCI Indicator and torque to 95 ft./lbs.
5. The unit is now ready to be returned to the car pocket upon completion of the car repair.

APPENDIX A

	UP	Field Charging Pressures	Shop Charging Pressures
	Eff 1/08		
Unit Type	UP Ref #		
10FACD TR	6270006	350	450
10FECB	6270065	350	450
10FFCB TR	6270120	350	450
10FFCD TR	6270124	350	450
10FFSCB TR	6270180	350	450
10FKECB		350	450
10FKECD	6270627	350	450
10FMCB PB	6270626	350	450
10FMCD PB	6270628	350	450
10FMCEB	6270457	350	450
10FRECB	6270015	350	450
10FRECD	6270018	350	450
*10FVMCB	6270765	350	450
*10FVMCD		350	450
*10FVMCEB	6270755	350	450
*15FVMCB		350	450
*15FVMCD		350	450
*15FVMCEB		350	450
15FHCB TR	6270301	350	450
15FHCD TR	6270317	350	450
15FHCEB	6270235	350	450
15FHCRB WR		350	450
15FHCRB TR	6270350	350	450
15FHCRB PB	6276210	350	450
15FFRBC-B TR	6271037	350	450
15FHDFSCB	6270405	350	450
15FINCB	6270787	350	450
15FINCEB		350	450
15FKECB	6270896	350	450
15FKECD	6270898	350	450
15FMCB PB	6270684	350	450
15FMCD PB	6270758	350	450

	UP	Field Charging Pressures	Shop Charging Pressures
	Eff 1/08		
15FMCEB	6270515	350	450
15FRECB	6270885	350	450
15FRECD	6270887	350	450
DA20-70			
DA20-100			
DA20G	6271089	850	1200
DA20G ATSF		850	1200
20BN	FMI UNIT	600	850
20PSN	FMI UNIT	600	850
F20B	6270909	SEE CHART	
F20A		SEE CHART	
20AN			
HCU	6270994		

Unit Type	UP Ref #	Field Charging Pressures	Shop Charging Pressures
UNIVERSAL (K)	6284325		
10F YOKE	6284350		
15F YOKE			
10-15E YOKE			
SA18G	6271040	850	1200
SA20G CB		850	1200
SA20G	6270950/KEY 6270930/FMI	850	1200
SAGMS	6271130	850	1200
SA20			
SA20MS	6271192		
SA20M			
H57	6307834		
H57-100	6307846		

TEMP (F°)	INFLATION PRESSURES (PSI)	
	MODELS	
	20A,20B,30B	20,30
-10	210	135
0	215	140
10	225	145
20	230	150
30	235	153
40	240	157
50	245	160
60	255	165
70	260	170
80	270	175
90	275	180
100	280	185
110	290	190

Cushioning Unit & Car Pocket Parts

KEY & PIN RETAINING SYSTEM PARTS – Miscellaneous PARTS

NOTE: Pricing subject to change without notice, please call for current pricing

LISTED UNDER DRAWING	AH PART#	DESCRIPTION
5036RSKC	5036RSKC	5036 Key Retaining System with Draft Key & Carrier
	AH5036B	retainer stud, FMI ME style
	AH5036D2	key retainer plate, FMI ME swing gate
	AH8090	forged draft key, tapered crosskey
	AH5036C2	key retainer, forged crosskey tee
	AH5036A	tab washer, FMI ME style
	AH8102	bolt, 3/4 X 1 1/2 Shallow Head
	AH8073	coupler carrier wear plate, manganese
4608RSK	4608RSK	4608 Key Retaining System
	AH8099	screw, 5/8 x 1-1/2 Flat Head
	AH8068	key retainer plate
	AH8081	forged draft key, E yoke crosskey
	AH8069A	key retainer, E yoke
	AH8070	tab washer, E yoke
	AH8100	bolt, 5/8 x 1-1/2, GR 5
	AH12692	wear plate, E yoke

LISTED UNDER DRAWING	AH PART#	DESCRIPTION
3450RSP	3450RSP	Type "F"-KNU Retention System
	23102451	7/8" vertical retainer pin
	RE035705	draft pin retainer, K yoke
	23102541	t pin keeper, retainer vertical pin
	RA030009	flat washer, 7/8 hardened
	AH8089	vertical coupler pin
	KS033451	coupler follower, butt pad
	5702RSP	5702RSP
23102451		7/8" vertical retainer pin
KS033452		draft pin retainer, R yoke
23102541		pin keeper, retainer vertical pin
RA030009		flat washer, 7/8 hardened
AH8089		vertical coupler pin
23108911		cotter pin 5/16 X 2

LISTED UNDER DRAWING	AH PART#	DESCRIPTION
8114RSKC	8114RSKC	8114 Key Retaining System with draft key & carrier
	AH8099	Screw, 5/8 x 1-1/2 flat head
	AH8067A	Key Retainer Plate
	AH8081	Forged Draft Key, E yoke crosskey
	AH8066A	Key Retainer
	AH8072	Tab Washer, E10&E15GR
	AH8101	Bolt, 1/2 x 1-1/2, GR 5
	AH8073	Coupler Carrier Wear Plate, manganese
8230RSKC	8230RSKC	8230 Key Retaining System with crosskey and carrier
	AH8143	Draft Key, E 10/15VM crosskey
	23103511	Key Retainer (AH8110)
	23103501	Tab Retainer (AH8111)
	AH8224	Bolt, 1/2 x 1-1/2, 10-15 VME key retainer
	C246913	Coupler Carrier
FMRPN	FMRPN	Type "MF" Series Retaining System
	RA030004	Bolt Pin Retainer, 1-1/2 X 10, 6 TPI Gr 5
	RA030003	Coupler Pin Retainer, MF style
	RA030005	Nut, 1-1/2 stover crimp
	AH8089	Vertical Coupler Pin
SNFRPBN	SNFRPBN	Type "SNF" Series Retaining System
	RA030004	Bolt Pin Retainer, 1-1/2 X 10, 6 TPI Gr 5
	AH8104	Draft Pin Retainer
	RA030005	Nut, 1-1/2 stover crimp
	AH8089	Vertical Coupler Pin

LISTED UNDER DRAWING	AH PART#	DESCRIPTION
AH5033C		AH Threaded Pin Plate Kit
	AH5033C	Pin Plate Threaded Assm, includes C1 & C2
	AH5033C3	Tab Washer, retainer plate
	AH5033C5	Nut, 3/8 x 16 jam
	AH5033C4	Bolt, 3/8 x 5/8 flat head
AH8112AC	AH8112AC	7/8" Vertical Pin Retention System, double end
	RA030009	Flat Washer, 7/8 hardened
	23110831	Pin Vertical 7/8" Machined AH-8112, for double end system
	23108911	Cotter Pin 5/16 X 2
	23103401	Retainer Pin Keeper 11 ga material
AH8105AC	AH8105AC	7/8" Vertical Pin Retention System, standard single strap
	RA030009	Flat Washer, 7/8 hardened
	23108911	Cotter Pin 5/16 X 2
	23102451	7/8" Vertical Retainer Pin
	23102541	Pin Keeper, retainer vertical pin

AH PART#	DESCRIPTION
87.15132	Crosskey, 1.5" X 6", 17.5" long C1050 key stock cut to length
23111921	EOC-17B Fabricated Adapter AH-9542
23113251	E-325G, Yoke Support Plate 5/8" grade 50 steel
6A644300	Washer, Draft Key, std 1-5/8"
AH8166	Draft Key Washer, 4.5" wide
AH6037	Shim, Std. Carrier Plate 5/8 X 3 X 3 A36
AH6038	Shim, Std. Carrier Plate 3/16 X 3 X 3 A36
AH8017A	11 5/8" Filler Block Assy for F20B
AH8017B	37" Filler Block Assy, Complete for F30B, Hydraframe 60
AH8017C	29-1/4" Filler Block Assy for National C3
AH8017D	9-1/4" Filler Block Assy For Hydraframe 40
AH8021	Wear Plate, Top Sill, 15G YE Yoke 3/16 X 8 X 32, AR235 Min.
AH8022	Wear Plate, Top Sill, 15G YF Yoke 3/16X8X36, AR235 Min.
AH8033	Wear Plate, Top Sill, 15G YF Yoke 3/16X8X31-1/2, AR340 Min.
AH8203	Wear Plate, Top Sill, 10G YF Yoke 3/16X8X26-1/2, AR235 Min.
AH8207	Wear Plate, Top Sill, 10G YE Yoke 3/16X8X28-1/2, AR235 Min.
AH8050 E	Yoke Guide Bar
AH8051	E10-15 G Top Draft Lug
AH8052	E10-15 G Bottom Draft Lug
AH8053	Unit Stops, "F" Floating Yokes 1-1/2 x 6 x 11-1/2, GR50 Plate

AH PART#	DESCRIPTION
AH8061	Yoke Guide Bar, 15-G unit 3/4 x 1-1/2 x 17, GR50
AH8062	Unit Support Strap, 10-18G unit 3/4 x 2-1/2 x 20-3/8, 1018 CR
AH8106	Front Draft Lug Forging
8090401047	Schrader High Pressure Tank Valve
AH8088	HDE Forged Draft Key
AH8087	HDE Key Retainer Plate

AH STOCK CODE	STOCK CODE FOR MAINFOLDS ONLY	DESCRIPTION	LONG DESCRIPTION	DRAWING NUMBER	LIST PRICE MANIFOLDS ONLY
23111661		Schrader high pressure charge	Connector #5560099 (T valve)		
23112261		3" Valve Stem Extension	HE-371, Haltec Corp		
23112251		6" Valve Extension	HE-393, Haltec Corp		
23111691		1/4" X 12" High Pressure Hyd	Hose Assy For Manifold Kit		
23111701		1/4" X 15' High Pressure Hyd	Hose Assy For Manifold Kit		
23111681		2-1/2" STNLS LM 0-1000 psi LIQ	Dixon Gauge, 1/4" LMT		
23112191		Regulator, VIC0781-1428	Charging Kit Add-on, Nitrogen		
	23112281	Schrader Manifold Valve Body	1" Stressproof Hex, #SCM-1001	SCM-1001	104.00
		D-PRO Purge Valve	1/8" Male NPT, Brass, PE Ball		
		Schrader High Pressure Charge	Connector, #5560099		
		Elbow connection			
	23112271	Oleo Manifold Relief Handle	Stainless Steel	KS038084A	456.00
		Oleo Manifold Charging Stem			
		Oleo Style Manifold Valve Body			
		Oleo Style Manifold Adaptor			
		Oleo Manifold Stem Holder			
23111721		Schrader, Manifold Complete Bleed	Kit Assy, W/ 12" Hose/ female quick disconnect		
23111711		Schrader, Manifold Complete Charge	Kit Assy, W/15' Hose		
23112241		Schrader Manifold Complete	w/15' Hose, and Regulator		
23107211		Oleo, Manifold Complete Bleed	Kit Assy, W/ 12" Hose/ female quick disconnect		
23112211		Oleo, Manifold Complete Charge	Kit Assy, W/15' Hose		
23102811		Oleo Manifold Complete	w/15' Hose, and Regulator		

For a complete charge & discharge kit for both units, type item numbers 23112241 & 23107211 must be ordered and include all items pictured.

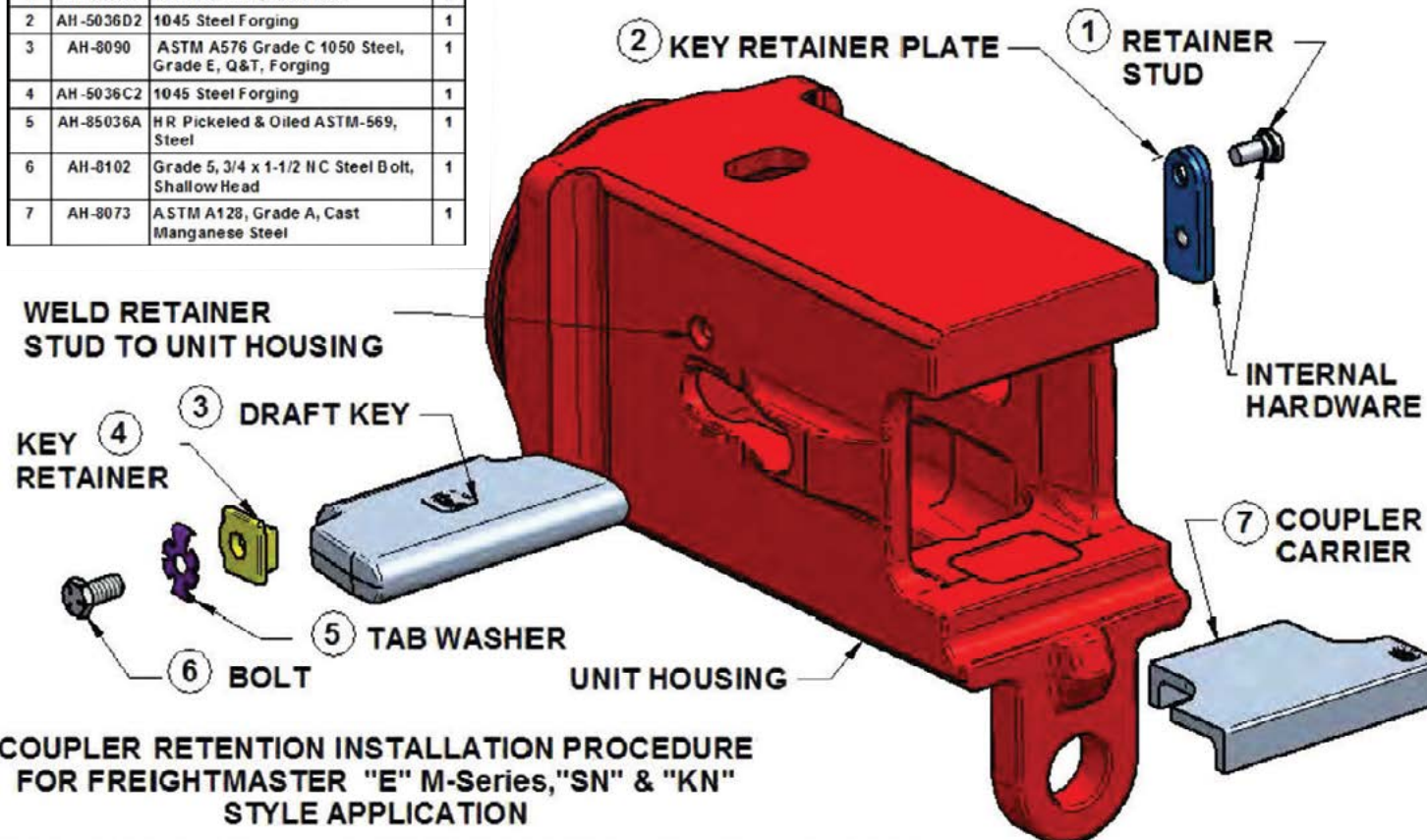
NOTE: The Oleo is also known as the AH or European valve.



5036 Key Retaining System w/ Draft Key & Carrier

Stock Code: 5036RSKC

Item #	Document #	Material	Qty
1	AH-5036B	Retainer Stud, Machined	1
2	AH-5036D2	1045 Steel Forging	1
3	AH-8090	ASTM A576 Grade C 1050 Steel, Grade E, Q&T, Forging	1
4	AH-5036C2	1045 Steel Forging	1
5	AH-85036A	HR Pickled & Oiled ASTM-569, Steel	1
6	AH-0102	Grade 5, 3/4 x 1-1/2 H C Steel Bolt, Shallow Head	1
7	AH-8073	ASTM A128, Grade A, Cast Manganese Steel	1



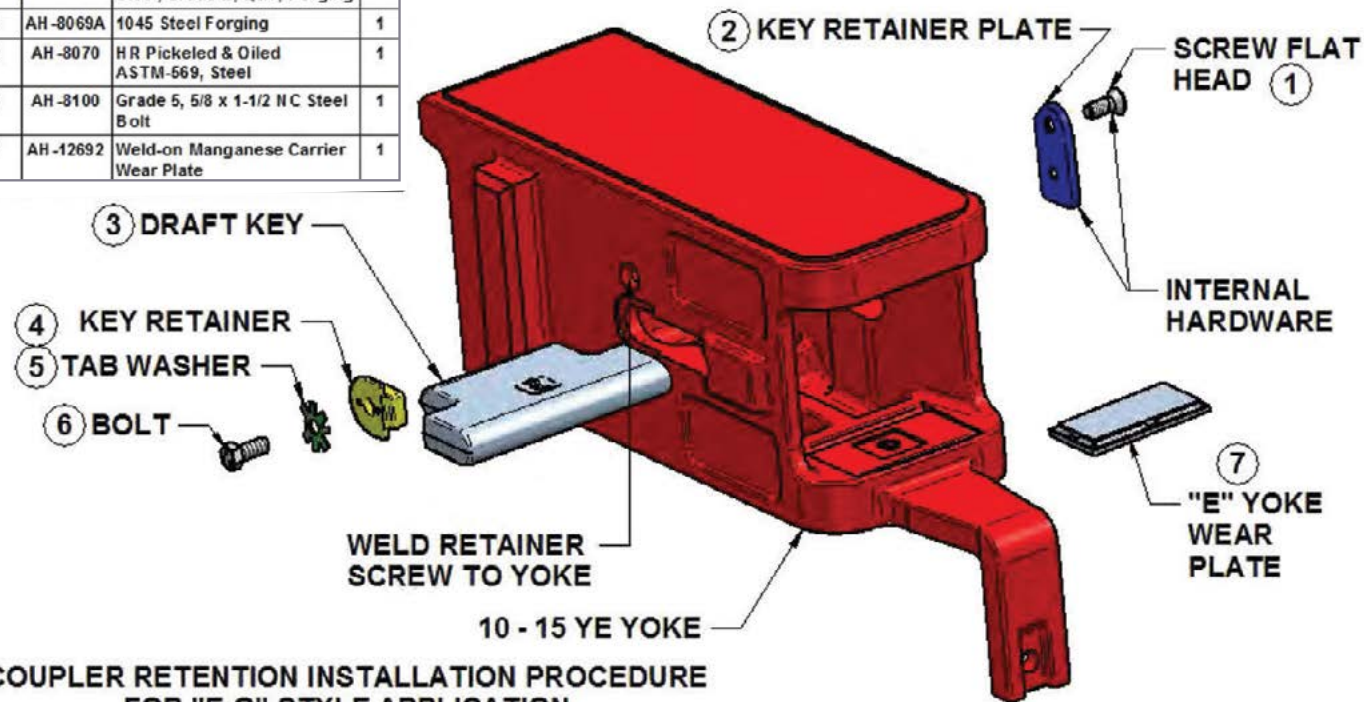
COUPLER RETENTION INSTALLATION PROCEDURE FOR FREIGHTMASTER "E" M-Series, "SN" & "KN" STYLE APPLICATION

INSTALL COUPLER, DRAFT KEY, KEY RETAINER, TAB WASHER AND BOLT, TORQUE BOLT TO 125-170 FT/LBS, BEND AT LEAST (2) TABS OVER ONTO THE FLATS OF THE BOLT.

4608 Key Retaining System

Stock Code: 4608RSK

Item #	Document #	Material	Qty
1	AH-8099	5/8 x 1-1/2 Flat Head Screw	1
2	AH-8068	1045 Steel Forging	1
3	AH-8081	ASTM A576 Grade C 1050 Steel, Grade E, Q&T, Forging	1
4	AH-8069A	1045 Steel Forging	1
5	AH-8070	HR Pickled & Oiled ASTM-569, Steel	1
6	AH-8100	Grade 5, 5/8 x 1-1/2 N.C Steel Bolt	1
7	AH-12692	Weld-on Manganese Carrier Wear Plate	1



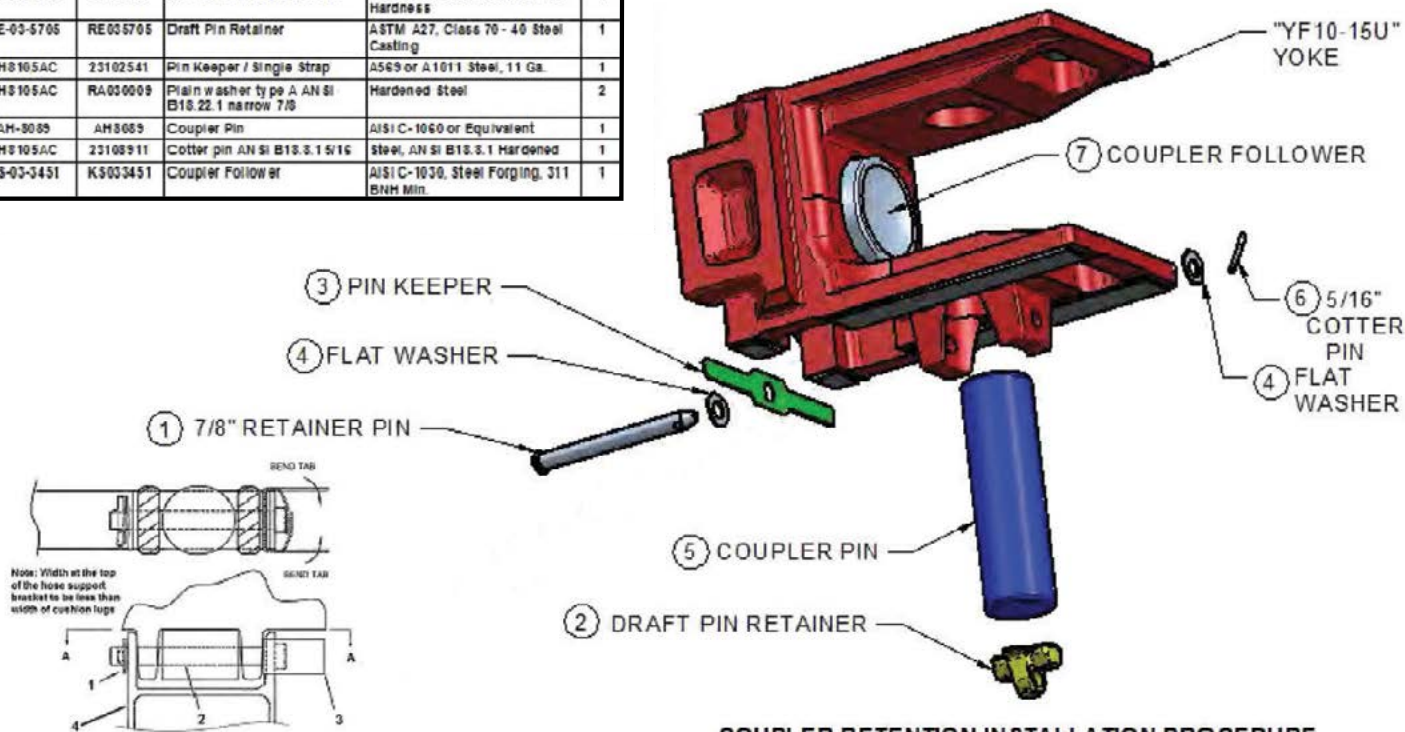
COUPLER RETENTION INSTALLATION PROCEDURE FOR "E-G" STYLE APPLICATION

INSTALL COUPLER, DRAFT KEY, KEY RETAINER, TAB WASHER AND BOLT, TORQUE BOLT TO 25 FT/LBS, BEND AT LEAST (3) TABS OVER ONTO THE FLATS OF THE BOLT.

Type "F" – KNU Retention System

Stock Code: 3450 RSP

Item #	Document #	Stock Code	Title	Material	Qty
1	AHS105AC	23102451	7/8" Std. Pin Retainer, Pin	4140 Q&T Steel, BNH 300-350 Hardness	1
2	RE-03-5705	RE035705	Draft Pin Retainer	ASTM A27, Class 70 - 40 Steel Casting	1
3	AHS105AC	23102541	Pin Keeper / Single Strap	A569 or A1011 Steel, 11 Ga.	1
4	AHS105AC	RA030009	Plain washer type A AN SI B18.22.1 narrow 7/8	Hardened Steel	2
5	AH-3085	AH3085	Coupler Pin	AISI C-1060 or Equivalent	1
6	AHS105AC	23108911	Cotter pin AN SI B18.3.1 5/16	Steel, AN SI B18.3.1 Hardened	1
7	KS-03-3451	K3033451	Coupler Follower	AISI C-1030, Steel Forging, 311 BNH Min	1



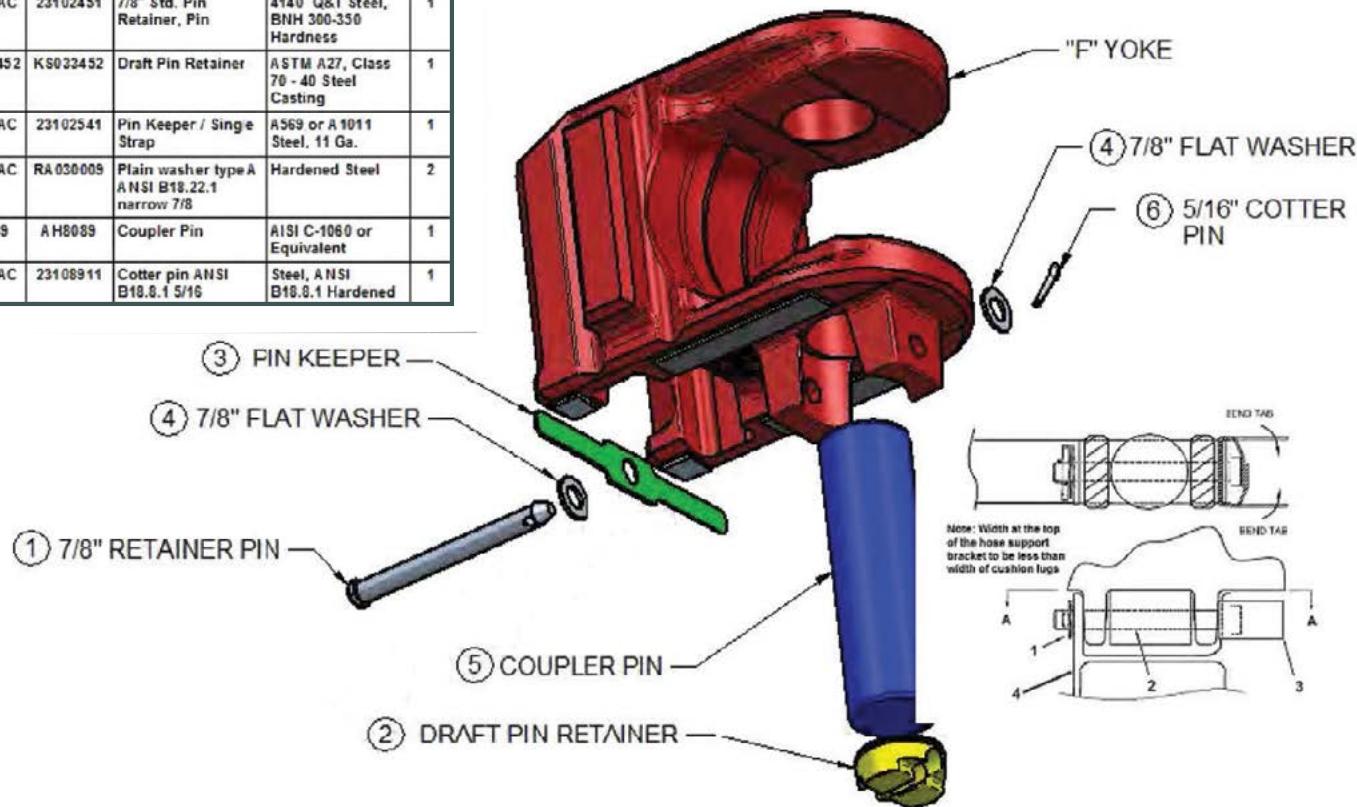
**COUPLER RETENTION INSTALLATION PROCEDURE
FOR FREIGHTMASTER TYPE "F"-KNU SERIES
STYLE APPLICATION**

INSTALL COUPLER, DRAFT PIN, DRAFT PIN RETAINER, INSERT 7/8" RETAINER PIN, FLAT WASHER, PIN KEEPER, FLAT WASHER, AND COTTER PIN, BEND BOTH LEGS OF COTTER PIN.

Type "F" – KN Series Retention System

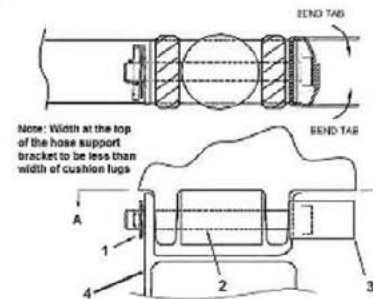
Stock Code: 5702RSP

Item #	Document#	Stock Code	Title	Material	Qty
1	AH8105AC	23102451	7/8" Std. Pin Retainer, Pin	4140 Q&T Steel, BNH 300-350 Hardness	1
2	KS-02-2452	KS023452	Draft Pin Retainer	ASTM A27, Class 70 - 40 Steel Casting	1
3	AH8105AC	23102541	Pin Keeper / Single Strap	A569 or A1011 Steel, 11 Ga.	1
4	AH8105AC	RA050005	Plain washer type A ANSI B18.22.1 narrow 7/8	Hardened Steel	2
5	AH-8089	AH8089	Coupler Pin	AISI C-1060 or Equivalent	1
6	AH8105AC	23108911	Cotter pin ANSI B18.8.1 5/16	Steel, ANSI B18.8.1 Hardened	1



COUPLER RETENTION INSTALLATION PROCEDURE FOR FREIGHTMASTER TYPE "F"-KN SERIES STYLE APPLICATION

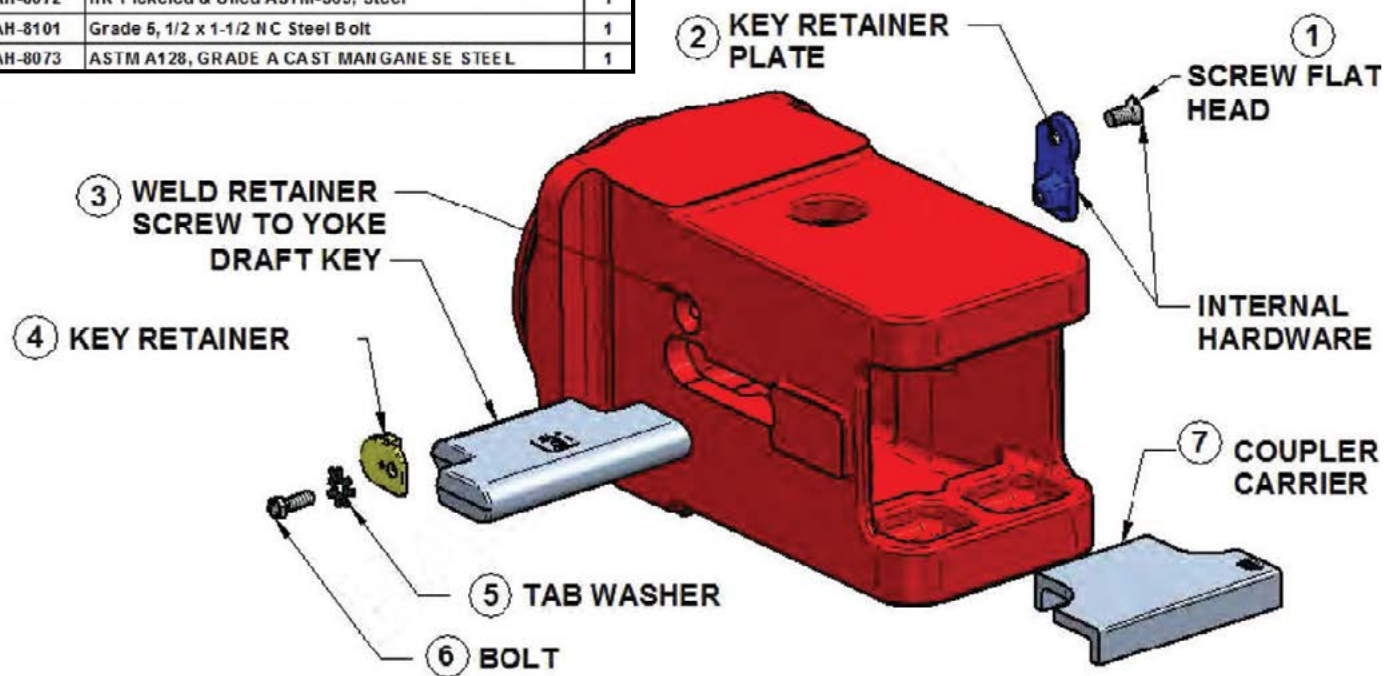
INSTALL COUPLER, DRAFT PIN, DRAFT PIN RETAINER, INSERT 7/8" RETAINER PIN, FLAT WASHER, PIN KEEPER, FLAT WASHER, AND COTTER PIN, BEND BOTH LEGS OF COTTER PIN.



8114 Key Retaining System w/ Draft Key & Carrier

Stock Code: 8114RSKC

Item#	Document #	Material	Qty
1	AH-8099	5/8 x 1-1/4 Flat Head Screw	1
2	AH-8067	1045 Steel Forging	1
3	AH-8081	ASTM A576 Grade C 1050 Steel, Grade E, Q&T, Forging	1
4	AH-8066	1045 Steel Forging	1
5	AH-8072	HR Pickled & Oiled ASTM-569, Steel	1
6	AH-8101	Grade 5, 1/2 x 1-1/2 N C Steel Bolt	1
7	AH-8073	ASTM A128, GRADE A CAST MANGANE SE STEEL	1



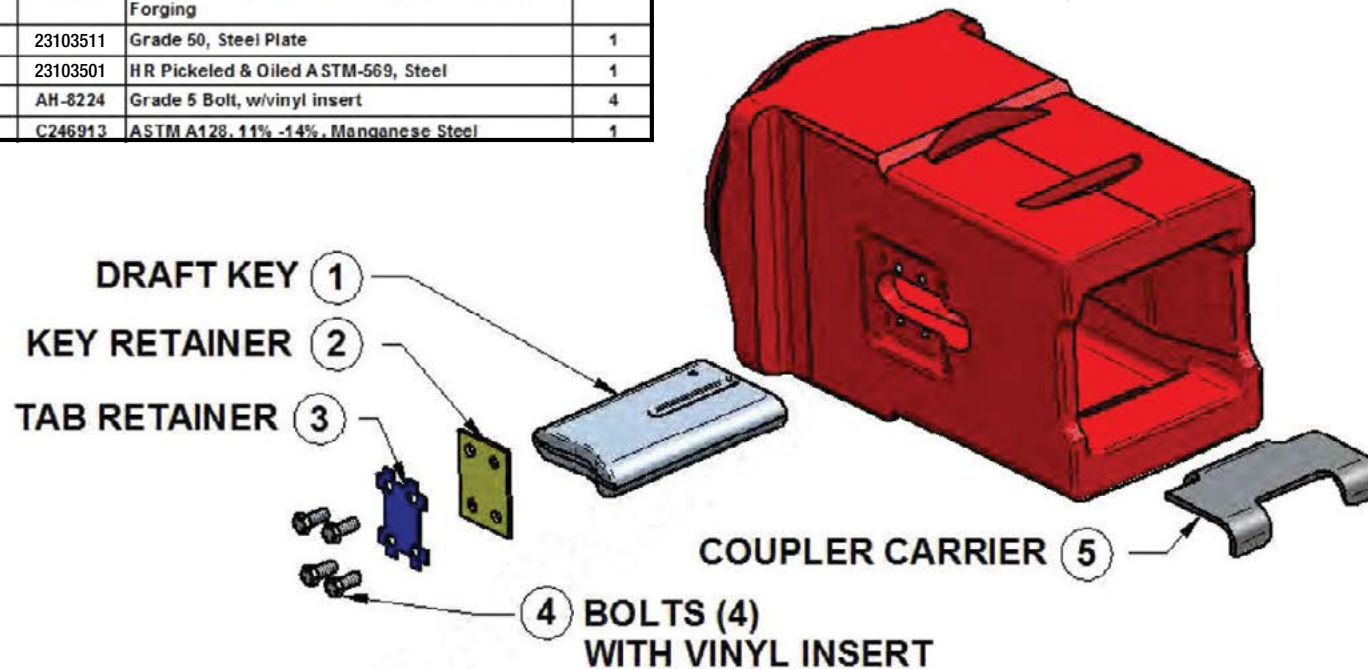
COUPLER RETENTION INSTALLATION PROCEDURE
FOR "E10 & E15 GR" STYLE APPLICATION

INSTALL COUPLER, DRAFT KEY, KEY RETAINER, TAB WASHER
AND BOLT, TORQUE BOLT TO 25 FT/LBS, BEND AT
LEAST (3) TABS OVER ONTO THE FLATS OF THE BOLT.

8230 Key Retaining System w/ Crosskey & Carrier

Stock Code: 8230RSKC

Item Number	Document Number	Material	Quantity
1	AH-8143	ASTM A576 Grade C 1050 Steel, Grade E, Q&T, Forging	1
2	23103511	Grade 50, Steel Plate	1
3	23103501	HR Pickled & Oiled ASTM-569, Steel	1
4	AH-8224	Grade 5 Bolt, w/vinyl insert	4
5	C246913	ASTM A128, 11% -14% Manganese Steel	1



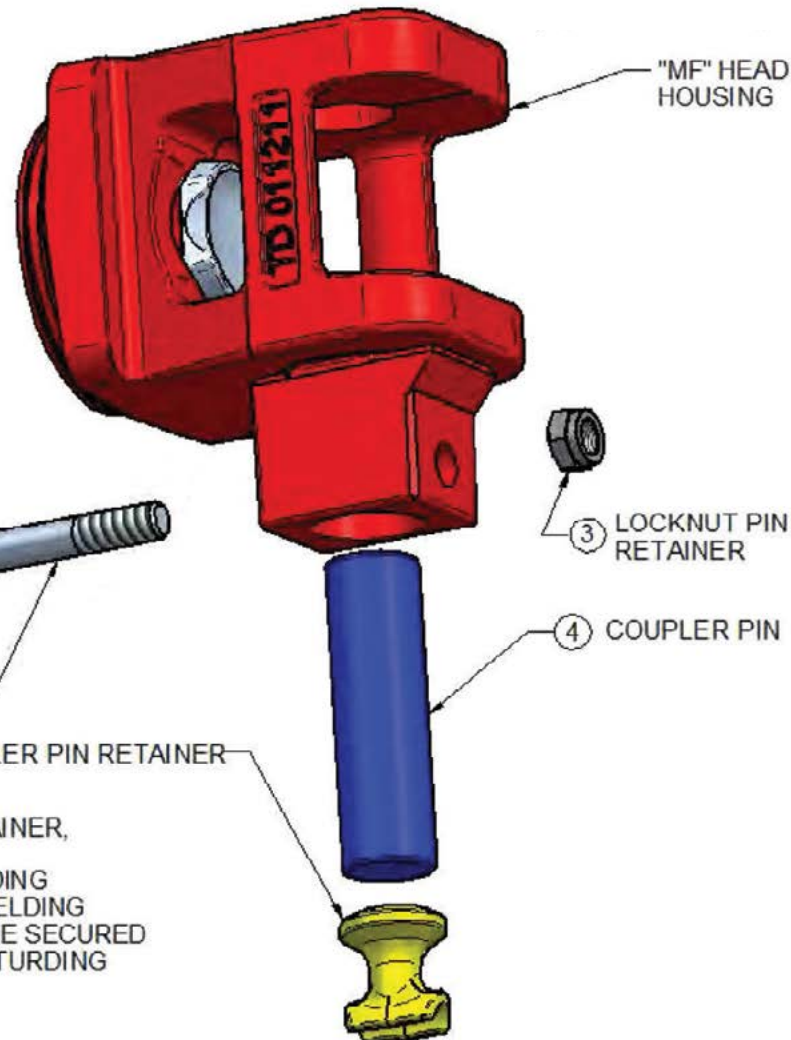
INSTALL COUPLER, DRAFT KEY, KEY RETAINER, TAB RETAINER, AND BOLTS, TORQUE BOLTS TO 20-35 FT/LBS, BEND TABS OF TAB RETAINER AGAINST 2 FLATS OF EACH BOLT HEAD TO SECURE BOLTS.

COUPLER RETENTION INSTALLATION PROCEDURE
FOR FREIGHTSAVER TYPE "E-VM" STYLE APPLICATION

TYPE "MF" Series Retaining System

Stock Code: FMRPBN

Item #	Document Number	Stock code	Title	Material	Qty
1	RA-03-0004	RA030004	Pin Retainer Bolt	Grade 5 bolt	1
2	RA-03-0003	RA030003	Pin Retainer	ASTM A27, 70-40 Steel	1
3	RA-03-0005	RA030005	1-1/2" x 6. Stover Crimp Nut	Grade 5 Nut	1
4	AH-8089	AH8089	Vertical Coupler Pin	A.A.R. Specs	1



COUPLER RETENTION INSTALLATION PROCEDURE FOR FREIGHTMASTER TYPE "F"-M SERIES STYLE APPLICATION

INSTALL COUPLER, DRAFT PIN, DRAFT PIN RETAINER, BOLT AND LOCKNUT.
SECURE THE LOCKNUT TO BOLT BY TACK WELDING LOCKNUT TO THE BOLT PIN RETAINER. IF NO WELDING CAPABILITY IS AVAILABLE, THE LOCKNUT MAY BE SECURED BY CHISEL CHECKING THE BOLT THREADS PROTURDING FROM THE NUT.

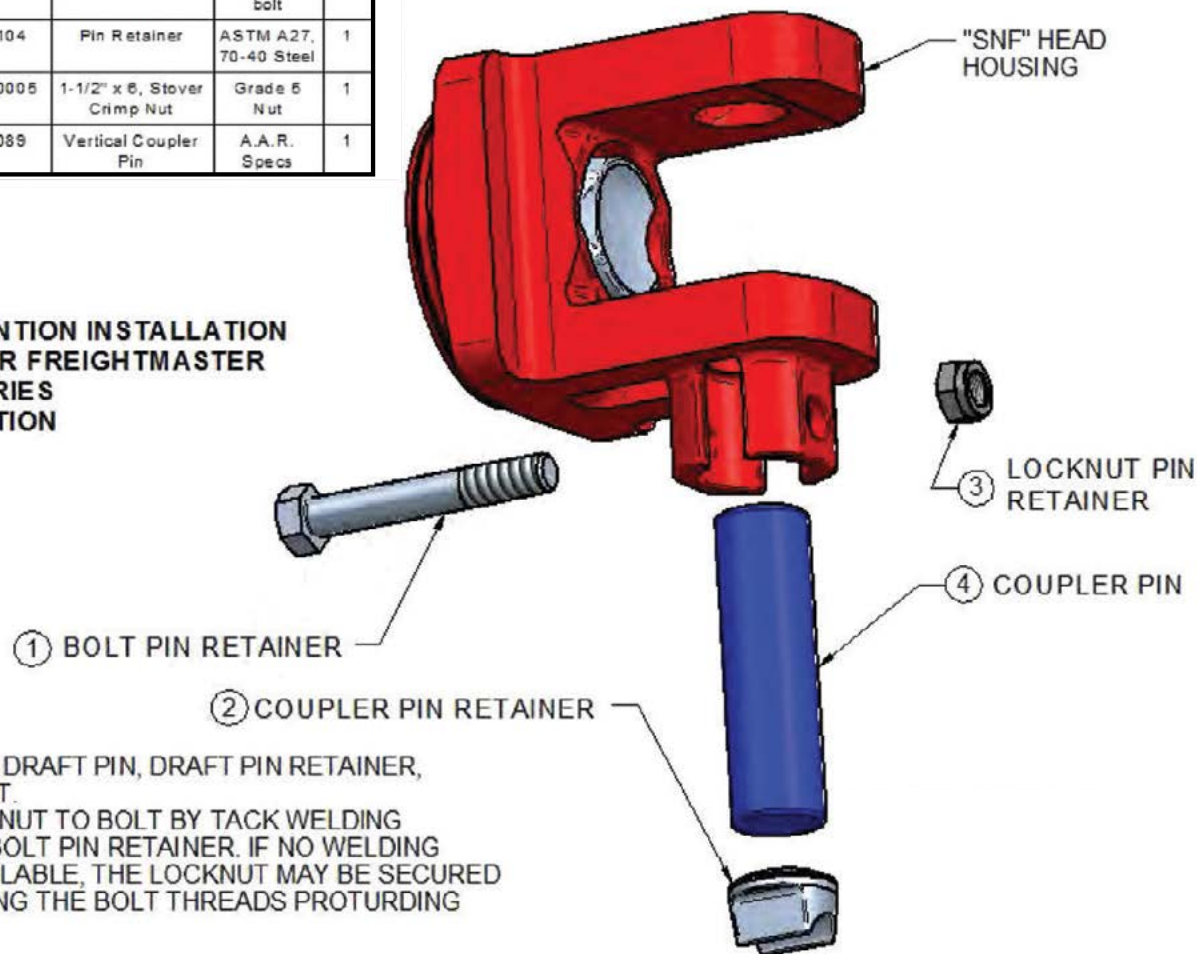
TYPE "SNF" Series Retaining System

Stock Code: SNFRPBN

Item Number	Document Number	Stock code	Title	Material	Qty
1	RA-03-0004	RA030004	Pin Retainer Bolt	Grade 5 bolt	1
2	AH-8104	AH8104	Pin Retainer	ASTM A27, 70-40 Steel	1
3	RA-03-0005	RA030005	1-1/2" x 6, Stover Crimp Nut	Grade 5 Nut	1
4	AH-8089	AH8089	Vertical Coupler Pin	A.A.R. Specs	1

COUPLER RETENTION INSTALLATION PROCEDURE FOR FREIGHTMASTER TYPE "F"-SN SERIES STYLE APPLICATION

INSTALL COUPLER, DRAFT PIN, DRAFT PIN RETAINER, BOLT AND LOCKNUT.
SECURE THE LOCKNUT TO BOLT BY TACK WELDING LOCKNUT TO THE BOLT PIN RETAINER. IF NO WELDING CAPABILITY IS AVAILABLE, THE LOCKNUT MAY BE SECURED BY CHISEL CHECKING THE BOLT THREADS PROTURDING FROM THE NUT.

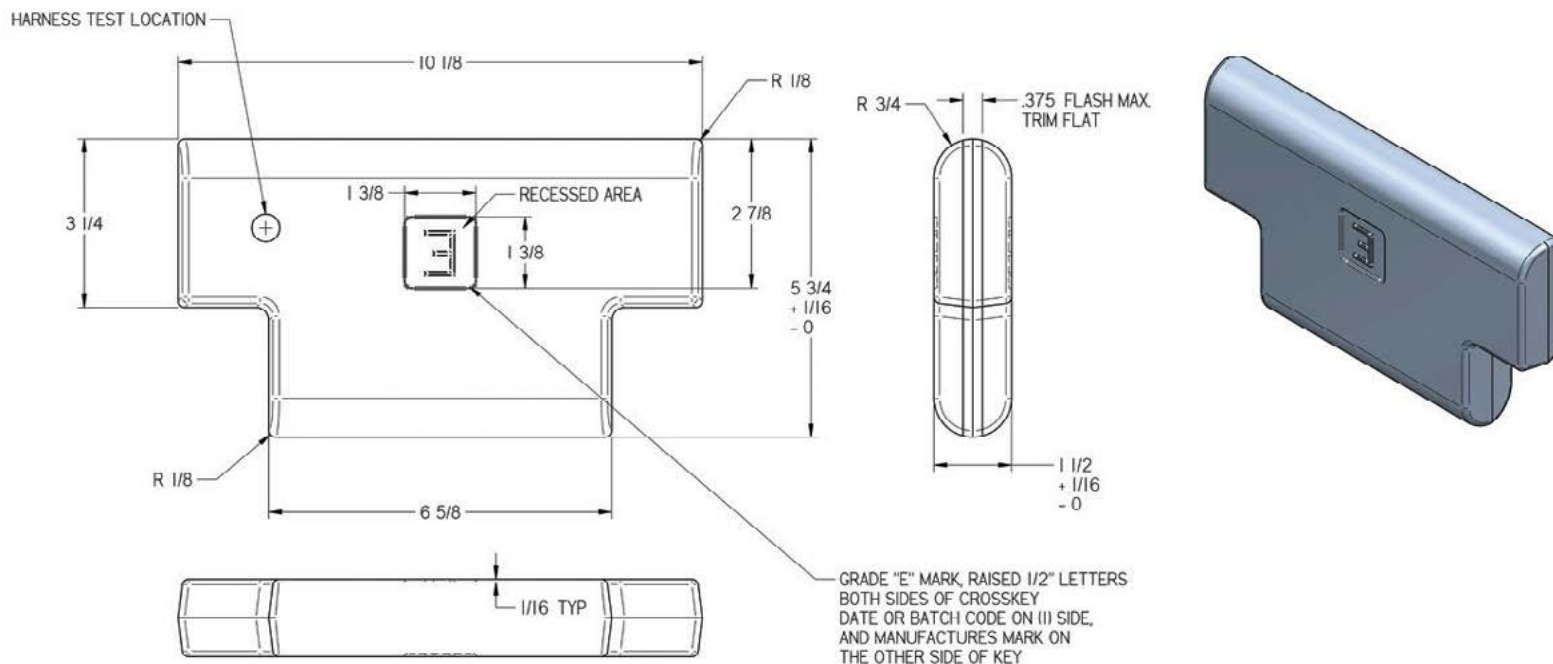


Crosskey "E" Yoke Forging

Weight: 19.504 LBM

Material: ASTM A576 AISI 1050 STEEL

Stock Code: AH808I



SEE MARKING STD. AAR. SPEC. S-121, Revised 2015

NOTE: ASTM A576 AISI 1050 STEEL GRADE "E" DRAFT KEY, QUENCHED AND TEMPER TO A SURFACE HARDNESS OF 262 - 302 BNH. LOCATION TO VERIFY SURFACE HARDNESS MUST HAVE SCALE REMOVED PRIOR TO MEASURING HARDNESS. AREA MAY BE GROUND TO DEPTH OF .06". FILLET RADIUS $\frac{1}{8}$ ".

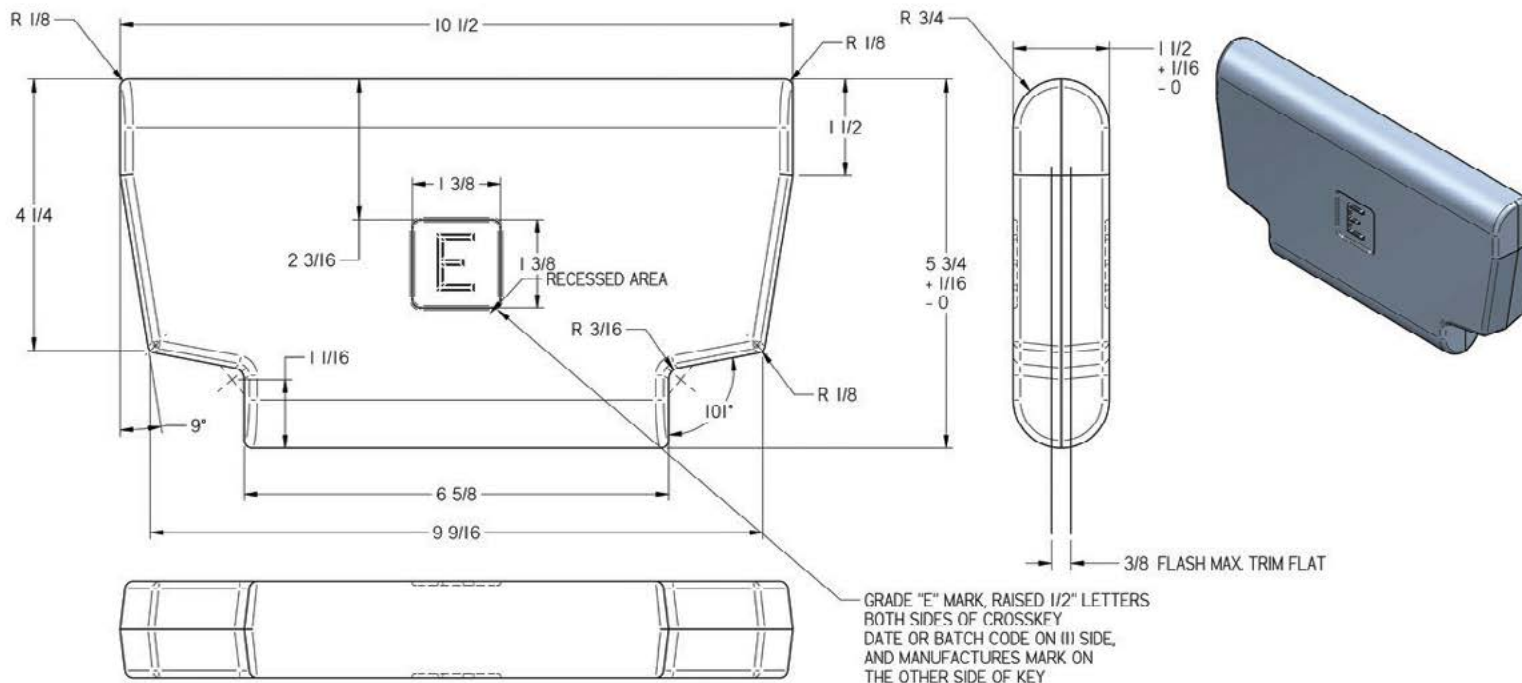
CORNER RADIUS $\frac{1}{8}$ ".
DRAFT ANGLES $7^\circ \pm \frac{1}{32}$ " MAX.
FLASH EXTENSION $\frac{1}{32}$ " MAX.
MISMATCH $\frac{1}{32}$ " MAX.

F/M ME Crosskey Forging

Weight: 21.304 LBM

Material: ASTM A576 AISI 1050 STEEL

Stock Code: AH8090



GRADE "E" MARK, RAISED 1/2" LETTERS
BOTH SIDES OF CROSSKEY
DATE OR BATCH CODE ON III SIDE,
AND MANUFACTURES MARK ON
THE OTHER SIDE OF KEY

SEE MARKING STD. AAR SPEC. S-121, Revised 2015

NOTE: ASTM A576 AISI 1050 STEEL GRADE "E" DRAFT KEY,
QUENCHED AND TEMPER TO A SURFACE HARDNESS OF 262 - 302 DNH.
LOCATION TO VERIFY SURFACE HARDNESS MUST HAVE
SCALE REMOVED PRIOR TO MEASURING HARDNESS AREA.
MAY BE GROUND TO DEPTH OF .06" FILLET RADII 1/8".

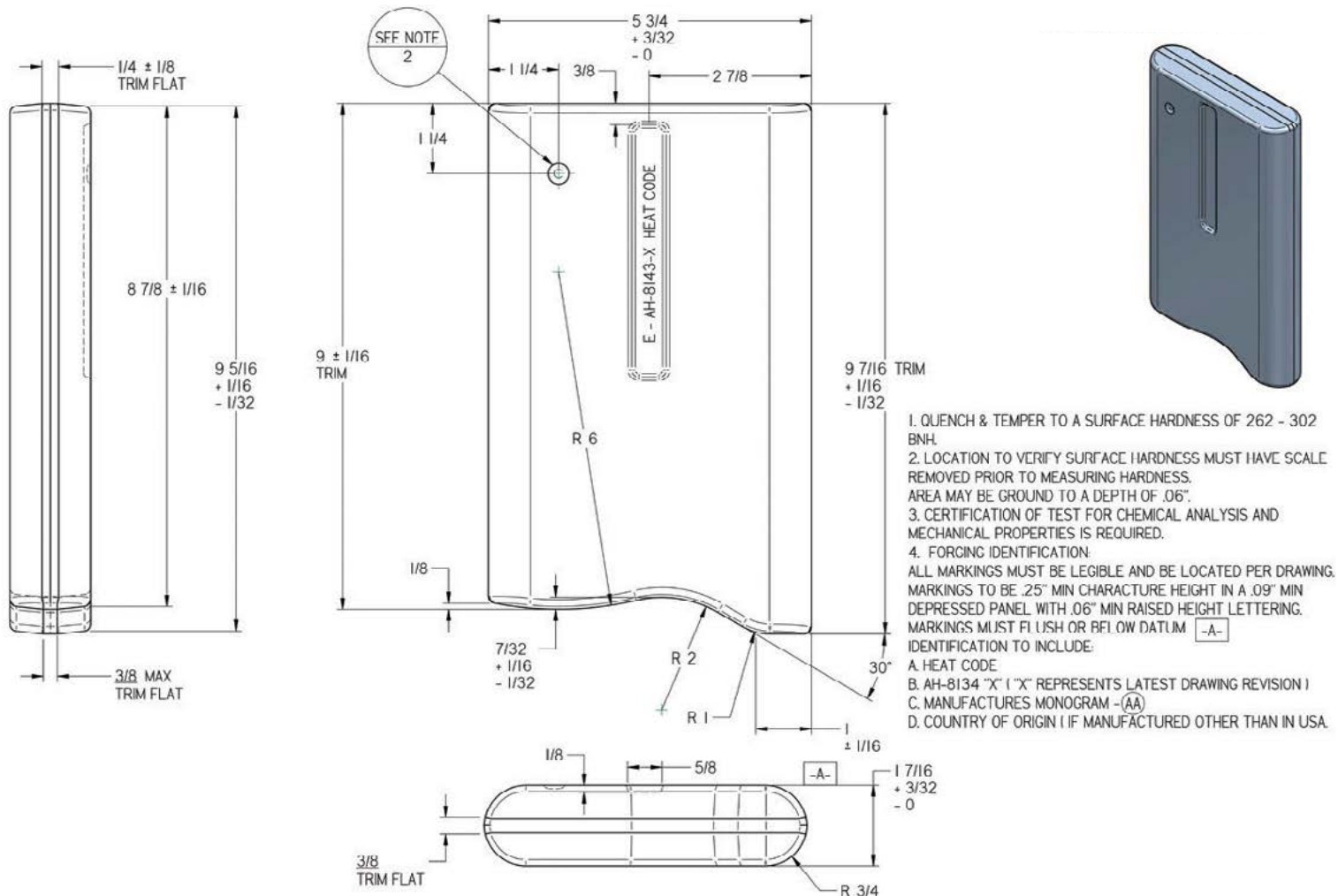
CORNER RADII 1/8".
DRAFT ANGLES 7° ± 1/32" MAX.
FLASH EXTENSION 1/32" MAX.
MISMATCH 1/32" MAX.

E-10/15YM Crosskey

Weight: 19.677 LBM

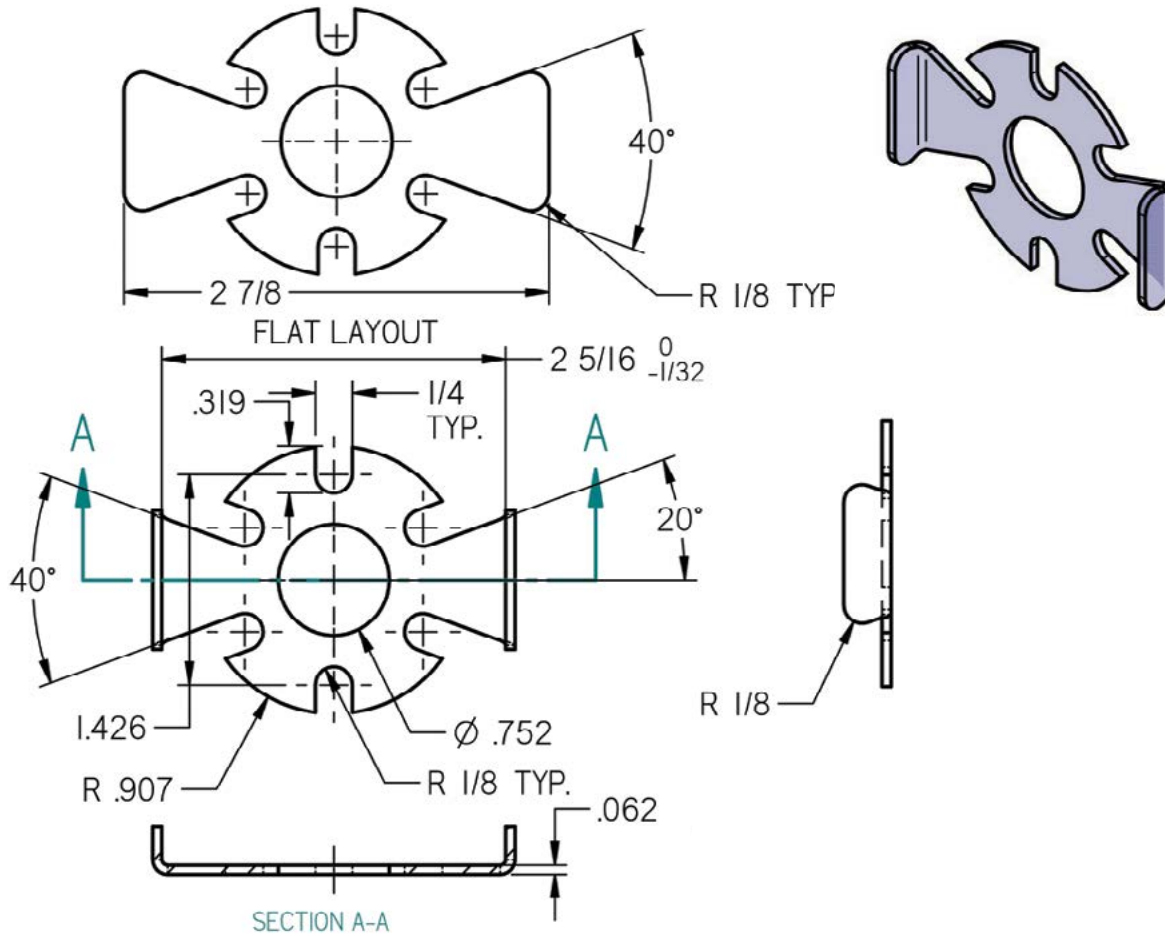
Material: ASTM A-572, AISI 1050 STEEL

Stock Code: AH-8143



F/M ME Crosskey Tab Washer

Weight: 0.046 LBM
Material: STEEL, A36
Stock Code: AH5036A

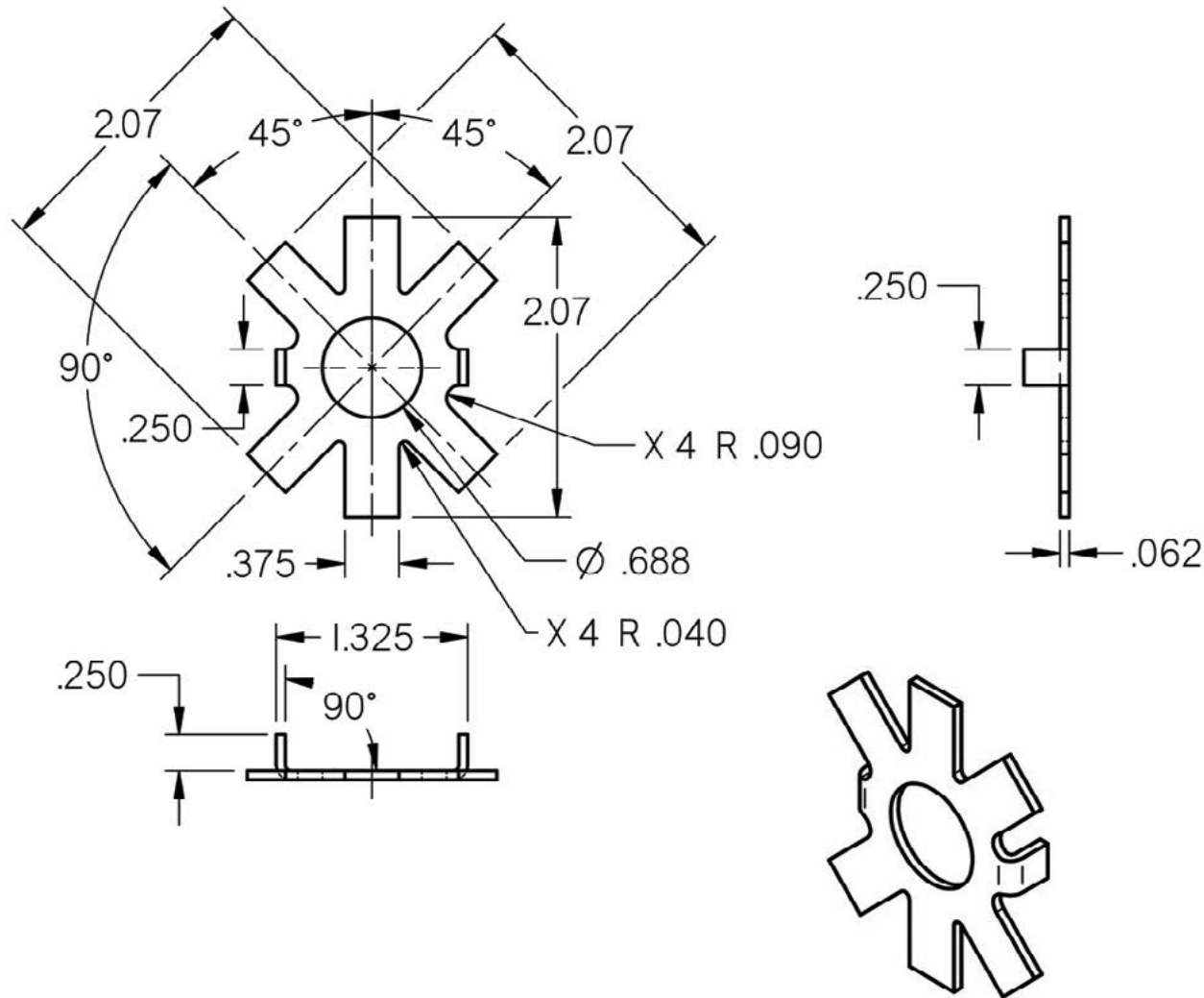


Crosskey Bolt Locking Tab

Weight: 0.033 LBM

Material: HR PICKLED 7 OILED ASTM-569, STEEL

Stock Code: AH8070

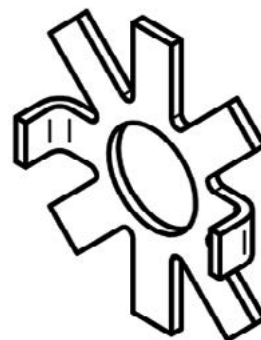
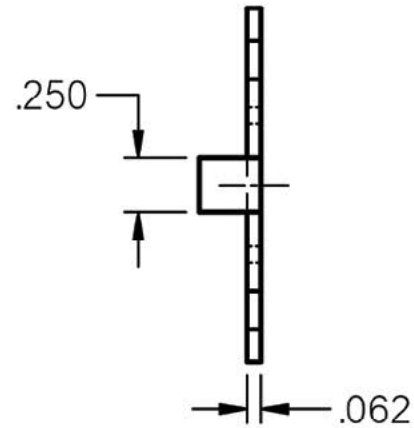
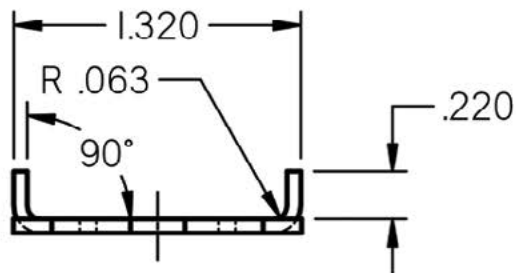
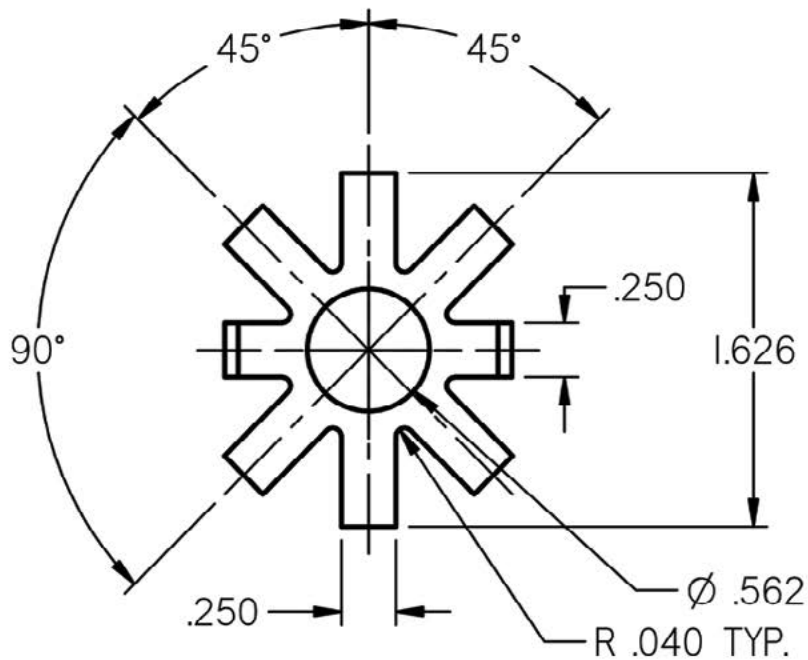


Crosskey Bolt Locking Tab

Weight: 0.020 LBM

Material: HR PICKLED & OILED ASTM-569, STEEL

Stock Code: AH-8072



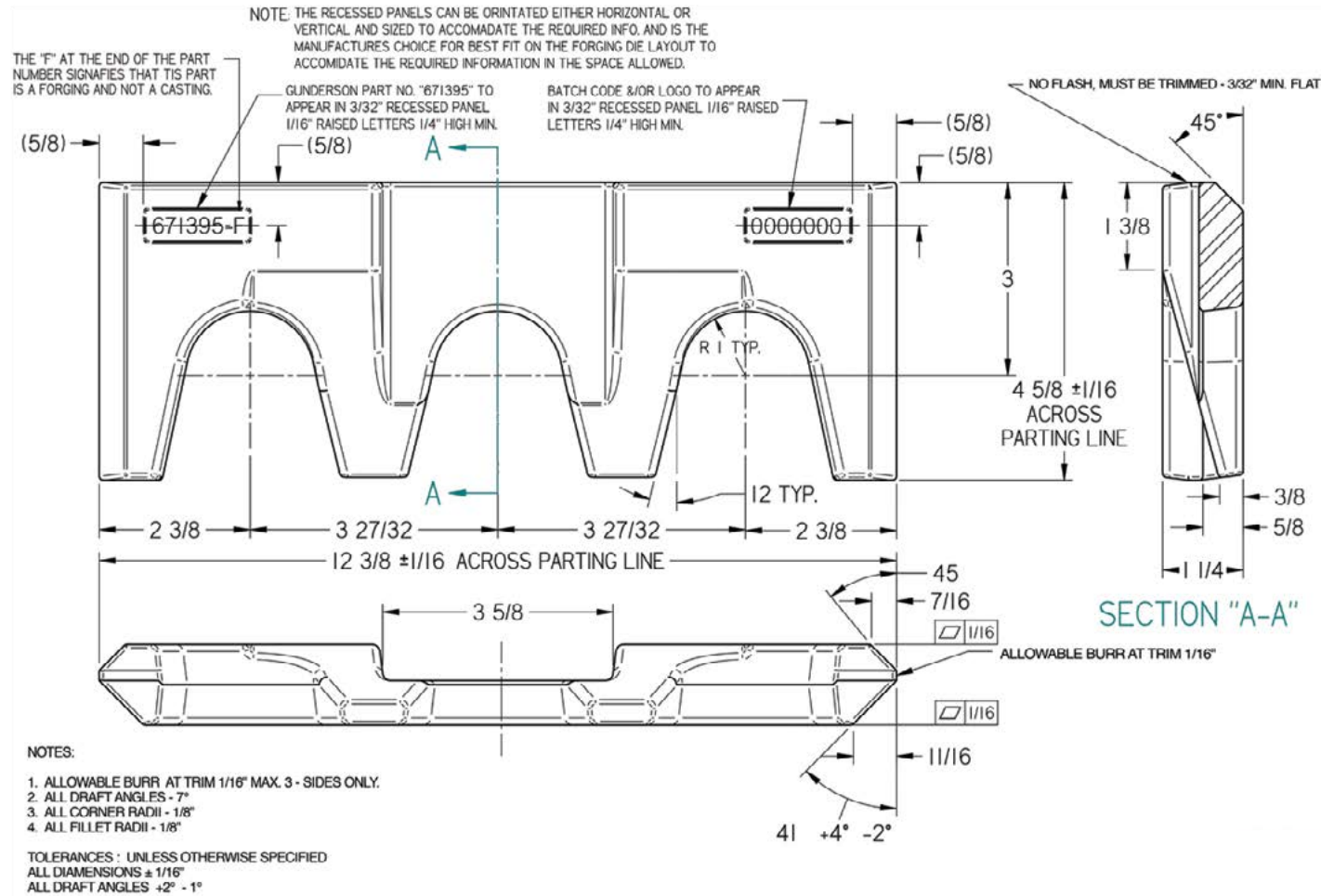
710000000-01-0012

Front Draft Lug Forged

Weight: 10.383 LBM

Material: ASTM A576, AISI 1035 QT, 50 KSI MIN. YIELD, 170 - 220 BNH, 20% MIN. ELONGATION

Stock Code: AH8106



CERTIFICATIONS: Chemical analysis and mechanical property test certification required

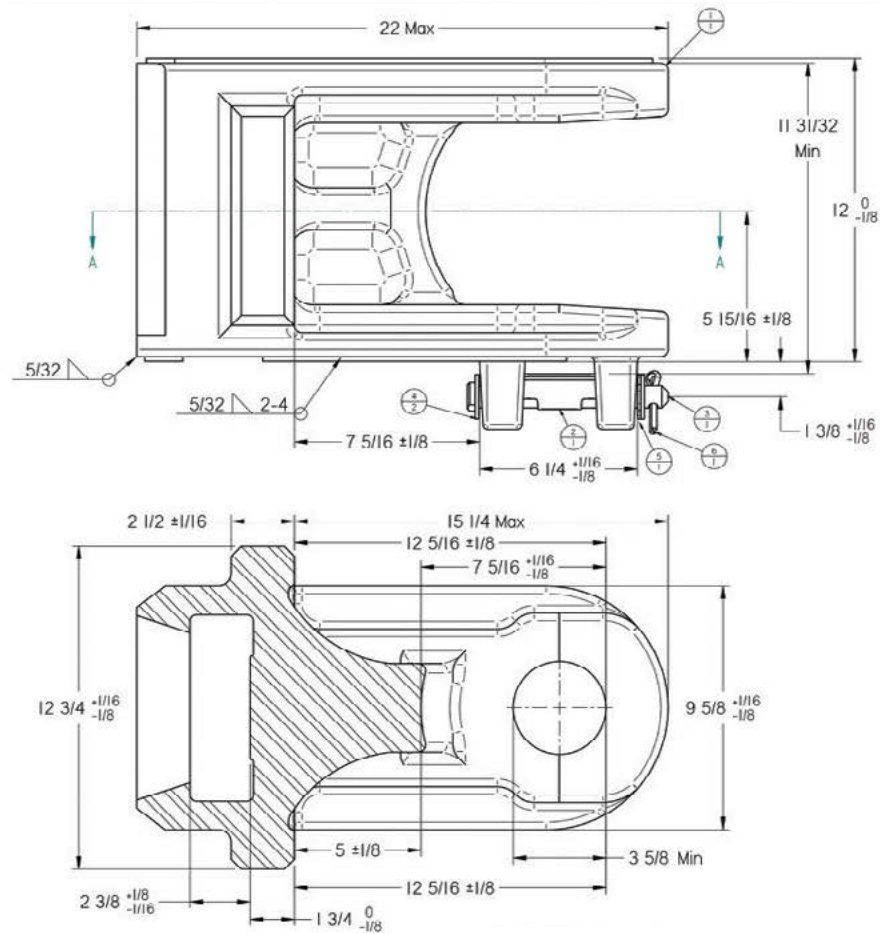
15YF Yoke, EOC Pockets 10, and 26

Weight: 294

Yoke Material: A.A.R. M-201, GRADE "E" STEEL CASTING

Stock Code: 5704N /RAW CASTING **Stock Code:** 23102291

SHOW W/ AH-8105 A-C PIN RETAINING SYSTEM



NOTE:

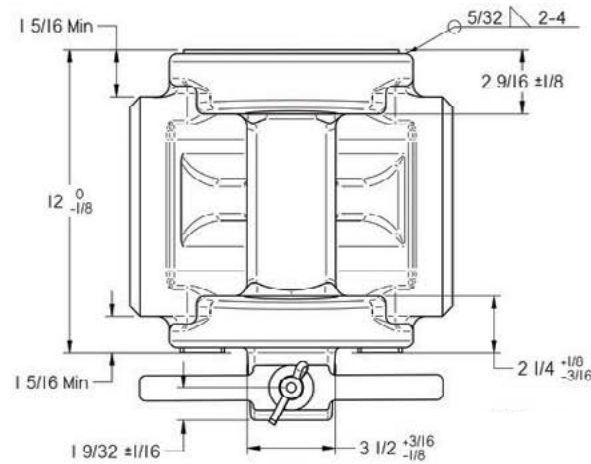
The wear plates shall be secured to the yokes by electric-arc welding process using any of the following shielded arc electrodes or their equivalent.

For grade C Cast Steel - AWS E9015, E9016, or E9018

For Grade E Cast Steel - AWS E12015, E12016, E12018, E13015, E13016, or E13018 The use of low ampreage is recommended to avoid deep penetration into parent metal.

Wear Plates must be tight against casting 1/32" gap X 3/4" Deep Max. All wear plate welds on 3/16" thick plate will be no greater than 5/32" fillet welds. All wear plate welds applied around corners will be continuous welds with nostart or stops on corner 1-1/2" long each way.

All wear plates to be 300 or greater Brinell. All wear plates will be made from abrasion resistant steel.



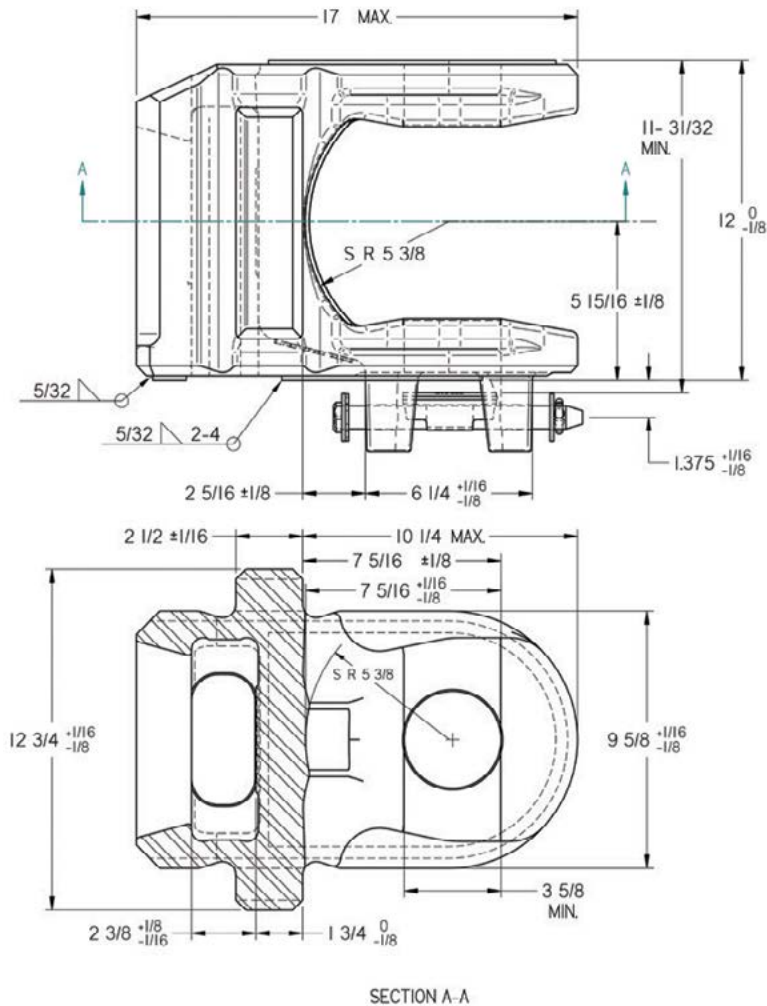
10YF Yoke, EOC 9

Weight: 225.054 LBM

Yoke Casting Material: AAR M-201 GRADE "E" STEEL

Stock Code: 5702N /RAW CASTING **Stock Code:** 23110281

SHOW W/ AH-8105 A-C PIN RETAINING SYSTEM



NOTE:

The wear plates shall be secured to the yokes by electric-arc welding process using any of the following shielded arc electrodes or their equivalent.

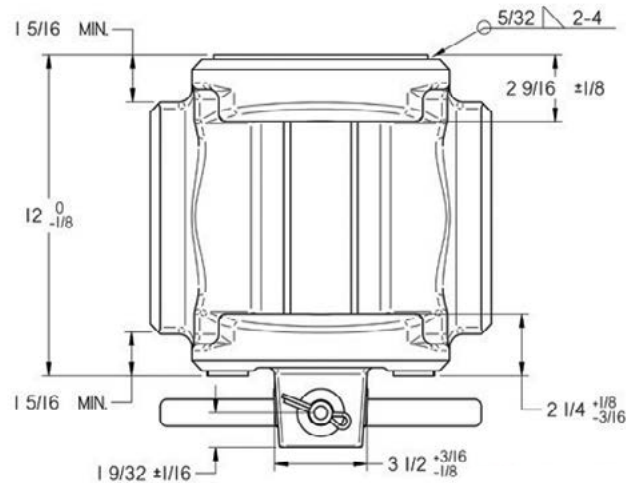
For grade C Cast Steel - AWS E9015, E9016, or E9018

For Grade E Cast Steel - AWS E12015, E12016, E12018, E13015, E13016, or E13018

The use of low ampreage is recommended to avoid deep penetration into parent metal.

Wear Plates must be tight against casting 1/32" gap X 3/4" Deep Max. All wear plate welds on 3/16" thick plate will be no greater than 5/32" fillet welds. All wear plate welds applied around corners will be continuous welds with nostart or stops on corner 1-1/2" long each way.

All wear plates to be 300 or greater Brinell. All wear plates will be made from abrasion resistant steel.



10-15 YE Yoke

Weight: 440

Material: A.A.R. M-901, GRADE "E" STEEL CASTING

Stock Code: 4608NI5TB

NOTE:

The wear plates shall be secured to the yokes by electric-arc welding process using any of the following shielded arc electrodes or their equivalent.

For grade C Cast Steel - AWS E9015, E9016, or E9018

For Grade E Cast Steel - AWS E12015, E12016, E12018, E13015, E13016, or E13018

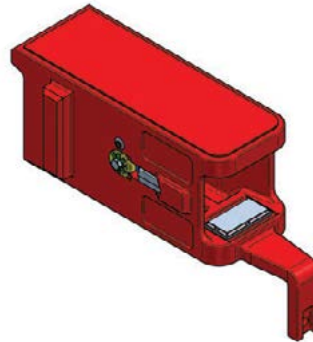
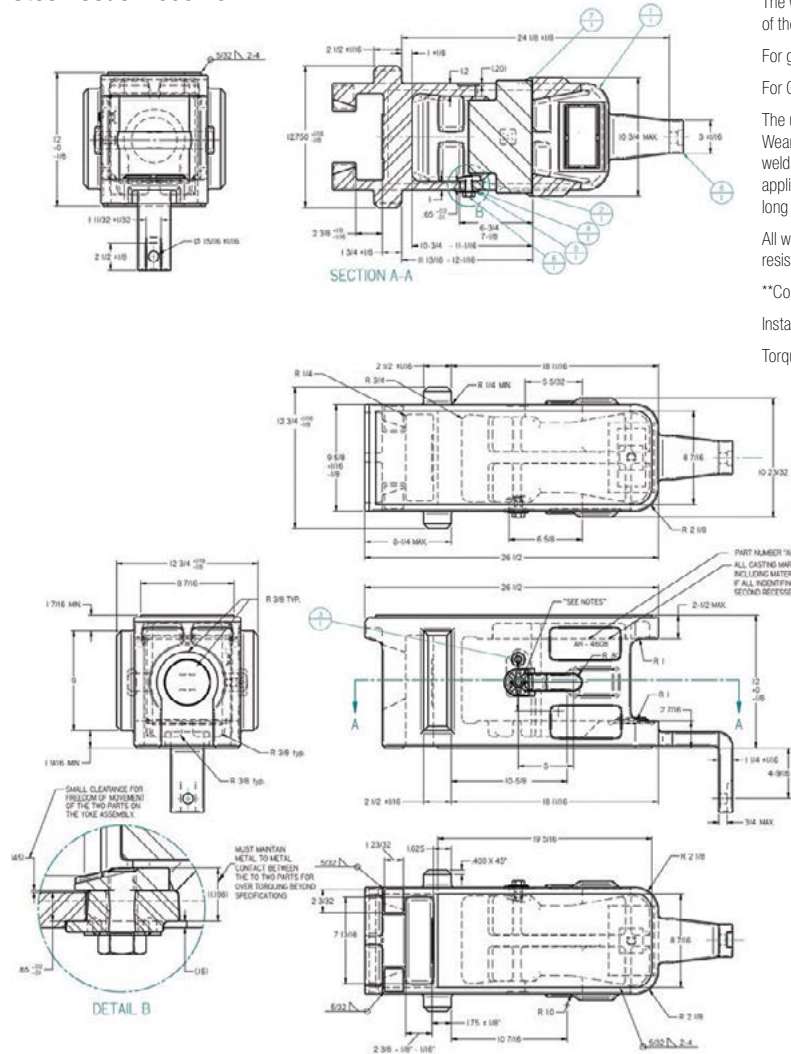
The use of low ampreage is recommended to avoid deep penetration into parent metal. Wear Plates must be tight against casting 1/32" gap X 3/4" Deep Max. All wear plate welds on 3/16" thick plate will be no greater than 5/32" fillet welds. All wear plate welds applied around corners will be continuous welds with nostart or stops on corner 1-1/2" long each way.

All wear plates to be 300 or greater Brinell. All wear plates will be made from abrasion resistant steel.

Coupler Key Retaining System :

Install Coupler, Draft Key, Key Retainer, Tab Washer, and Bolt.

Torque Bolt to 25 ft/lbs max, Bend at least (3) Tabs over onto the flats of the Bolt.



10-15 YE Yoke

Weight: 436

Material: A.A.R. M-201, GRADE "E" STEEL CASTING

Stock Code: 4608NI0TB

NOTE:

The wear plates shall be secured to the yokes by electric-arc welding process using any of the following shielded arc electrodes or the equivalent.

For grade C Cast Steel - AWS E9015, E9016, or E9018

For Grade E Cast Steel - AWS E12015, E12016, E12018, E13015, E13016, or E13018

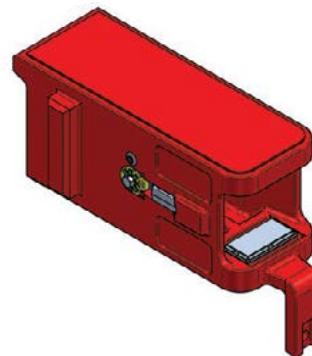
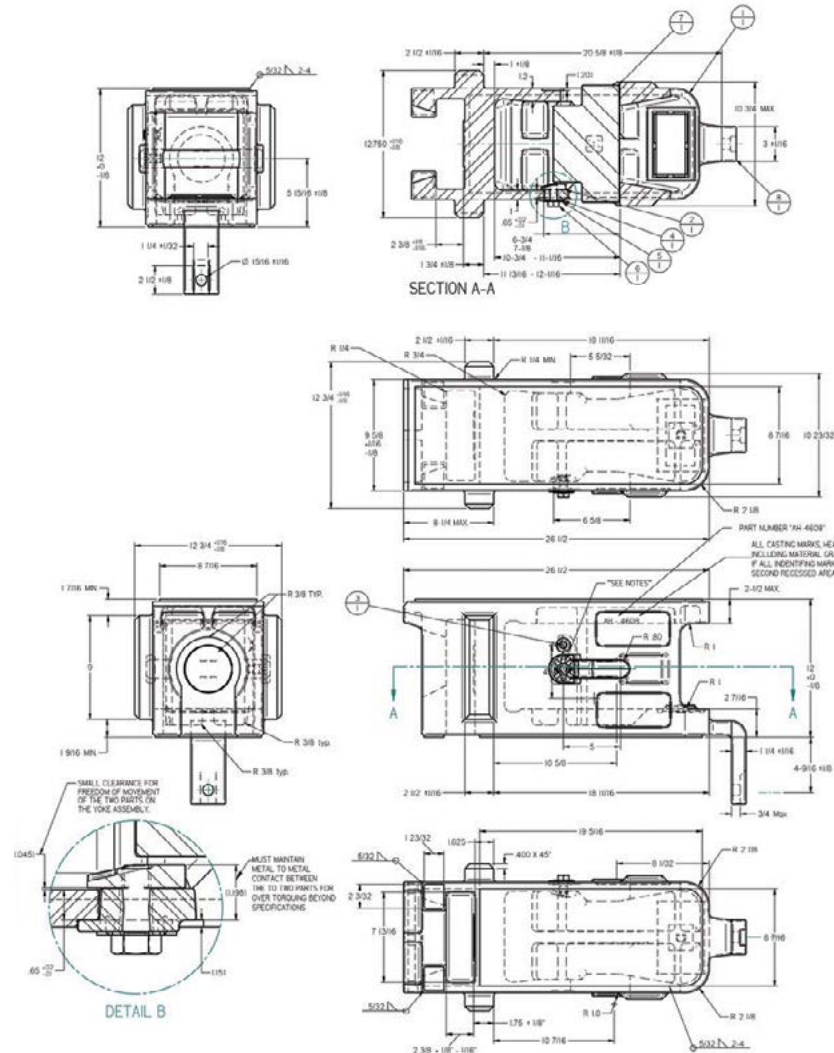
The use of low ampreage is recommended to avoid deep penetration into parent metal. Wear Plates must be tight against casting 1/32" gap X 3/4" Deep Max. All wear plate welds on 3/16" thick plate will be no greater than 5/32" fillet welds. All wear plate welds applied around corners will be continuous welds with nostart or stops on corner 1-1/2" long each way.

All wear plates to be 300 or greater Brinell. All wear plates will be made from abrasion resistant steel.

****Coupler Key Retaining System** :**

Install Coupler, Draft Key, Key Retainer, Tab Washer, and Bolt.

Torque Bolt to 25 ft/lbs max, Bend at least (3) Tabs over onto the flats of the Bolt.

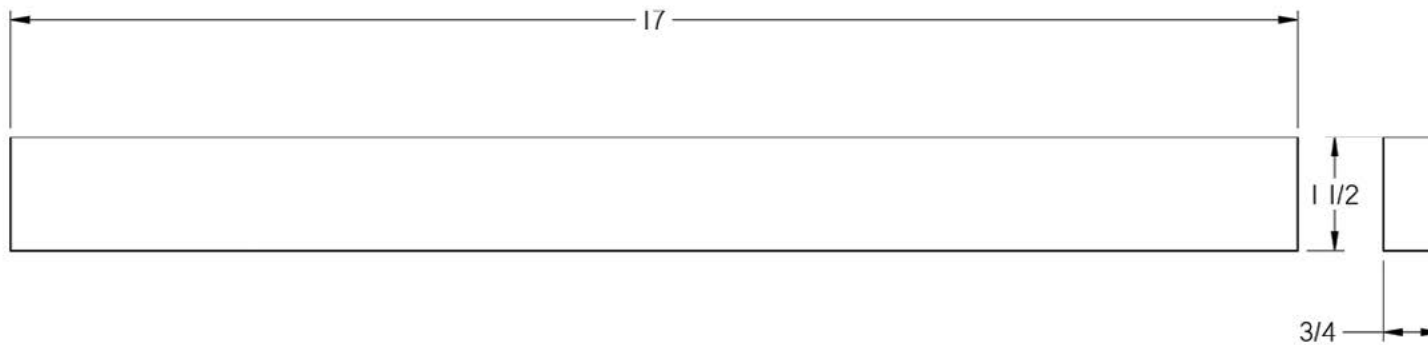
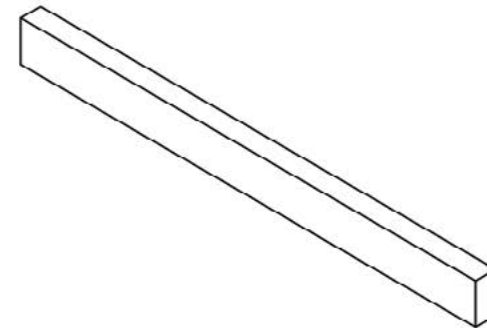


EOC-10 Yoke Guide Bar

Weight: 5.412 LBM

Material: A-572, GR. 50 PLATE STEEL

Stock Code: AH8061

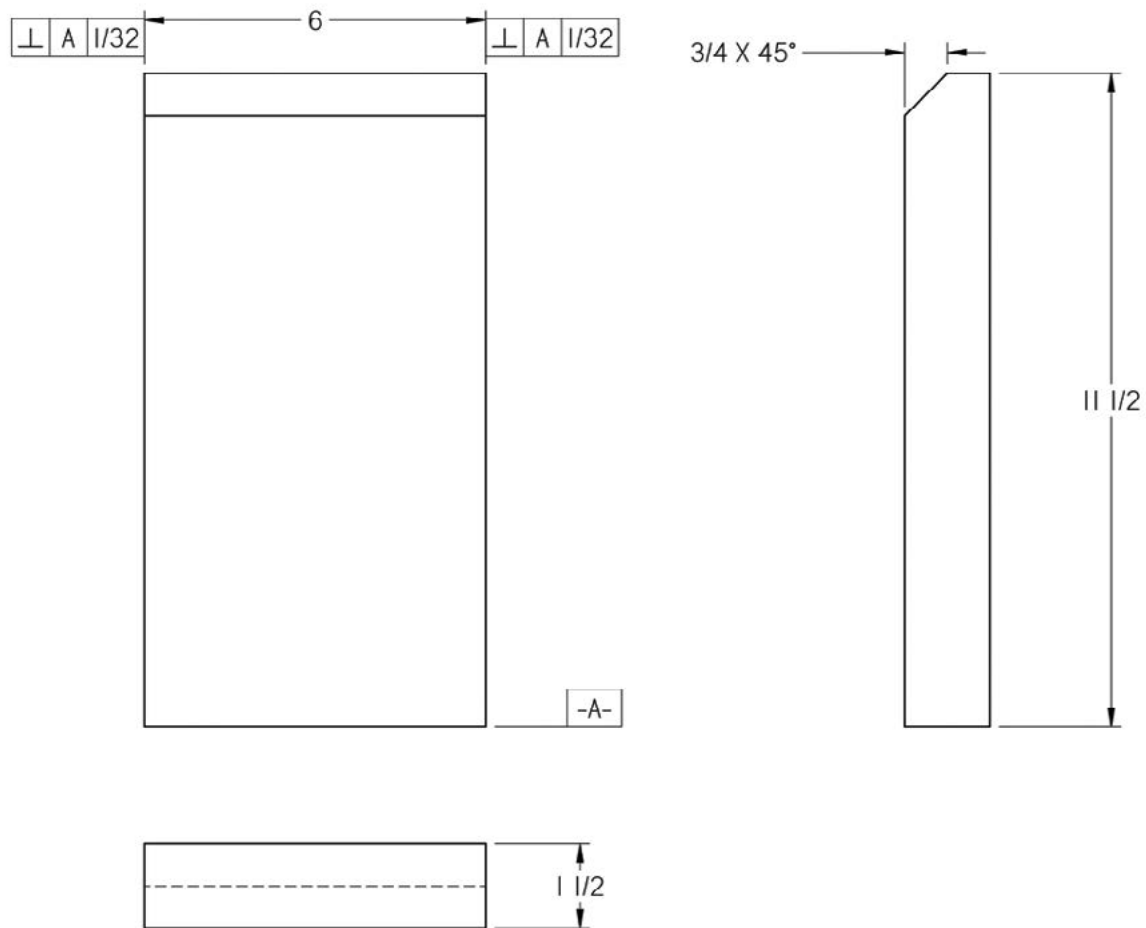


10-15 G Unit Stop

Weight: 28.811 LBM

Material: A-572, GR. 50 PLATE STEEL

Stock Code: AH8053

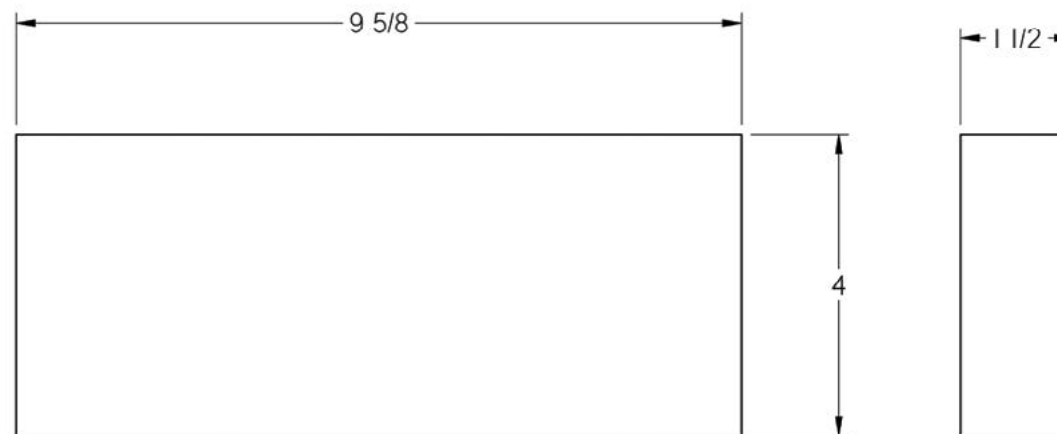


E10-15 G Bottom Draft Lug

Weight: 16.342 LBM

Material: A-572, GR. 50 PLATE STEEL

Stock Code: AH8052

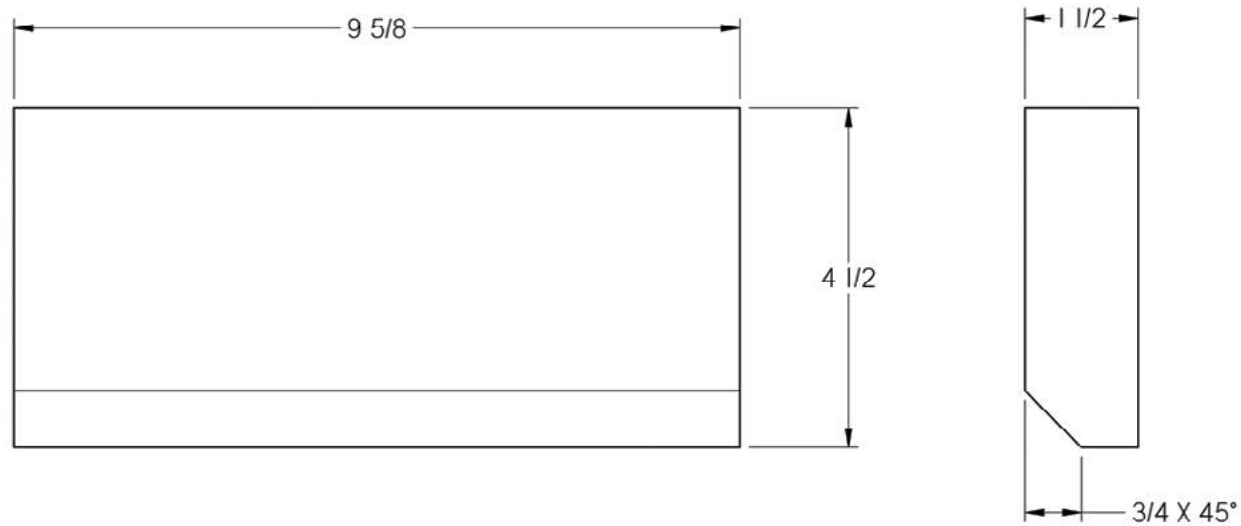


E10-15 G Top Draft Lug

Weight: 17.619 LBM

Material: A-572, GR. 50 PLATE STEEL

Stock Code: AH8051

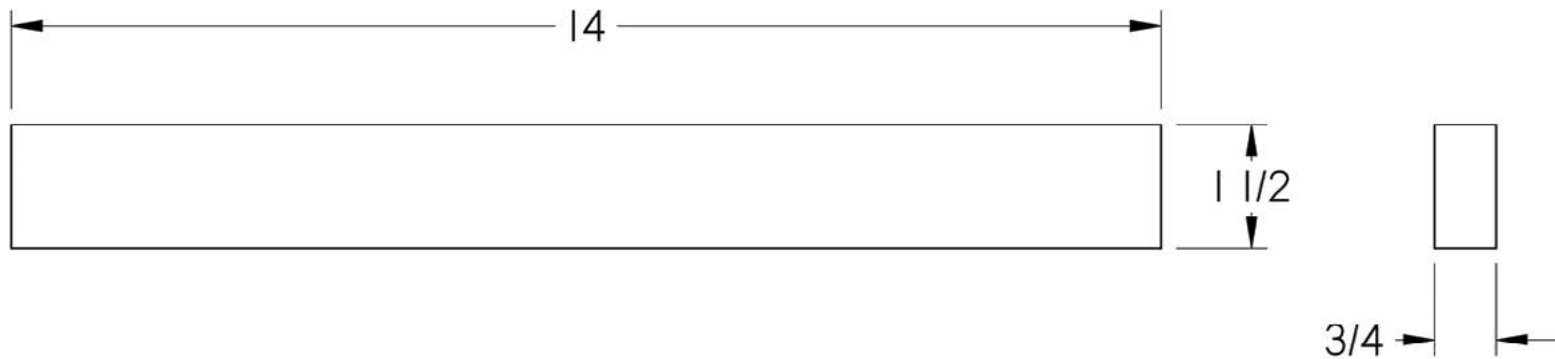


E Yoke Guide Bar 15G

Weight: 4.457 LBM

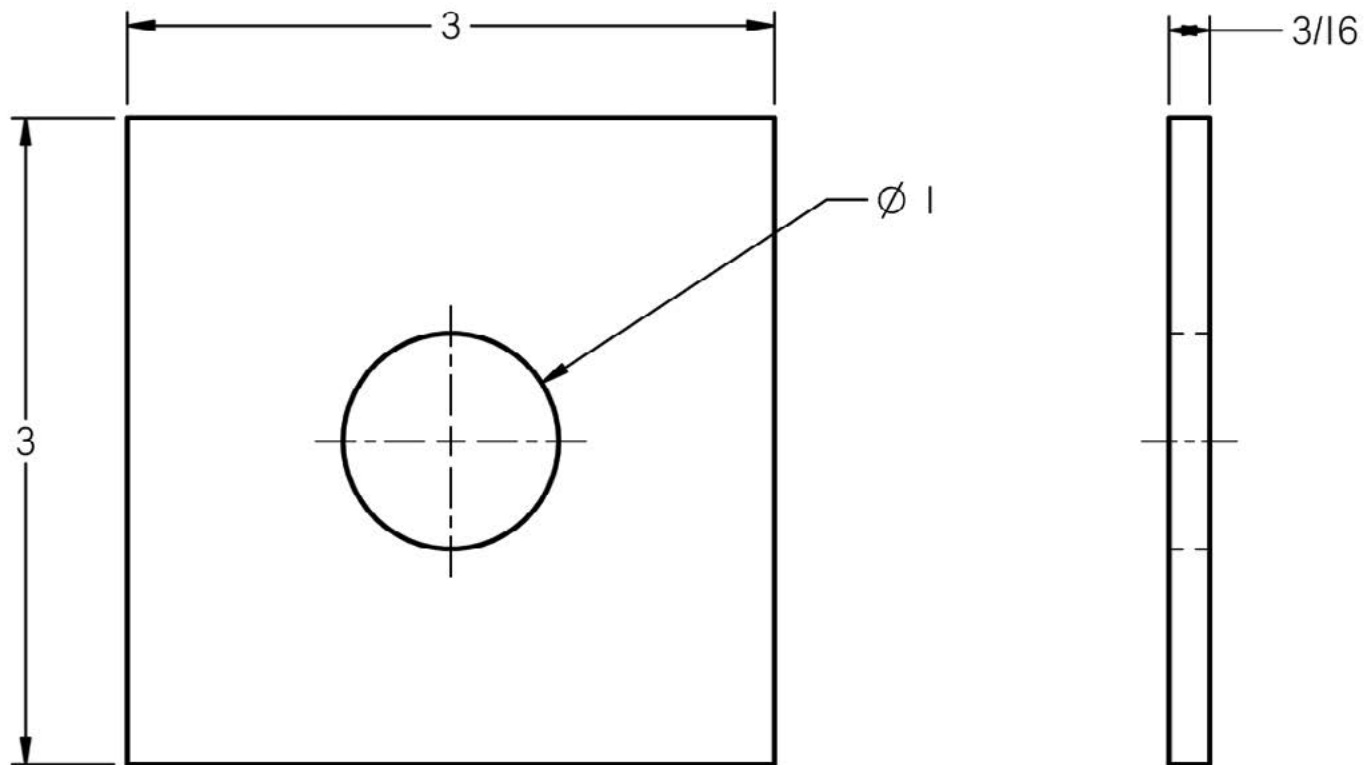
Material: HR PICKLED 7 OILED ASTM-569, STEEL

Stock Code: AH8050



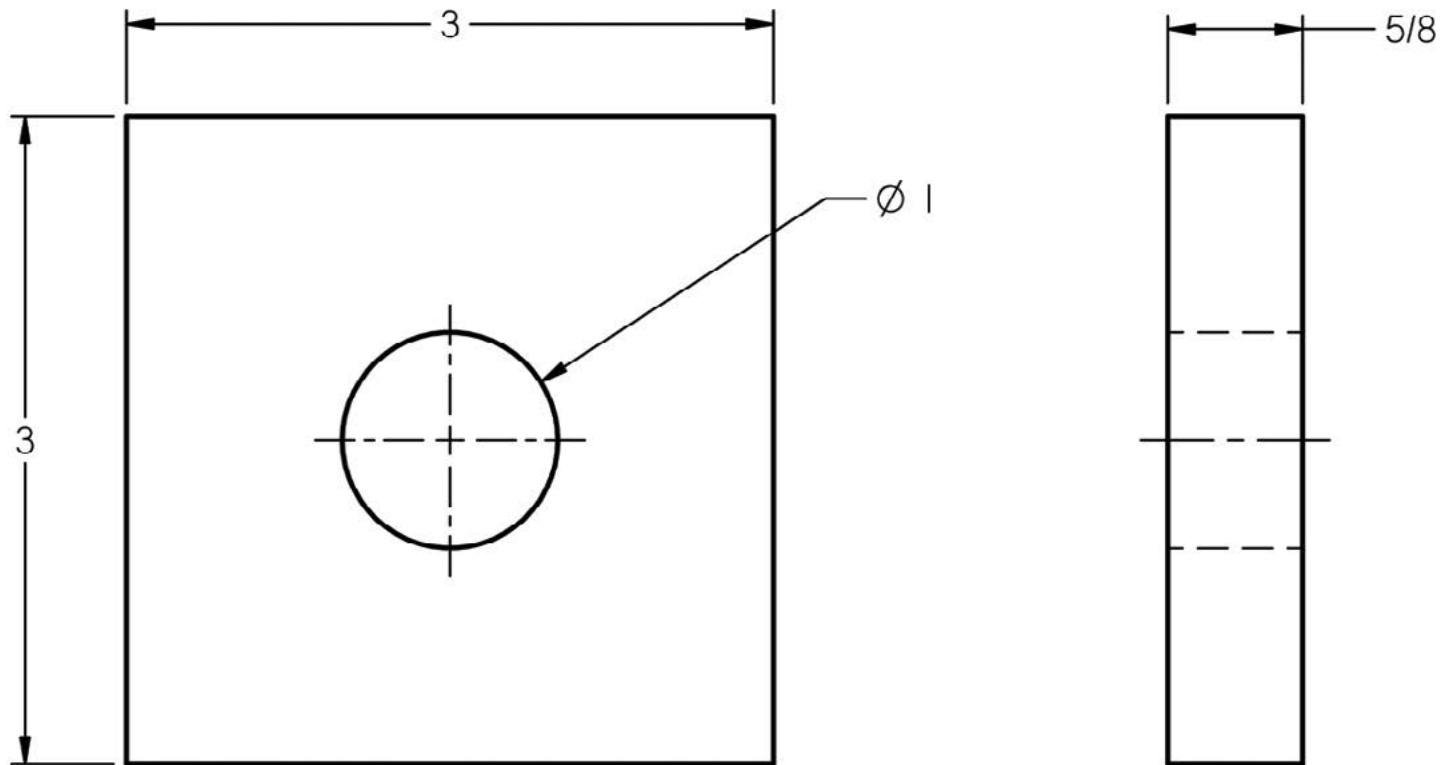
STD Carrier Plate Shim 3/16

Weight: 0.436 LBM
Material: A36 STEEL
Stock Code: AH6038



STD Carrier Plate Shim

Weight: 1.453 LBM
Material: A36 STEEL
Stock Code: AH6037

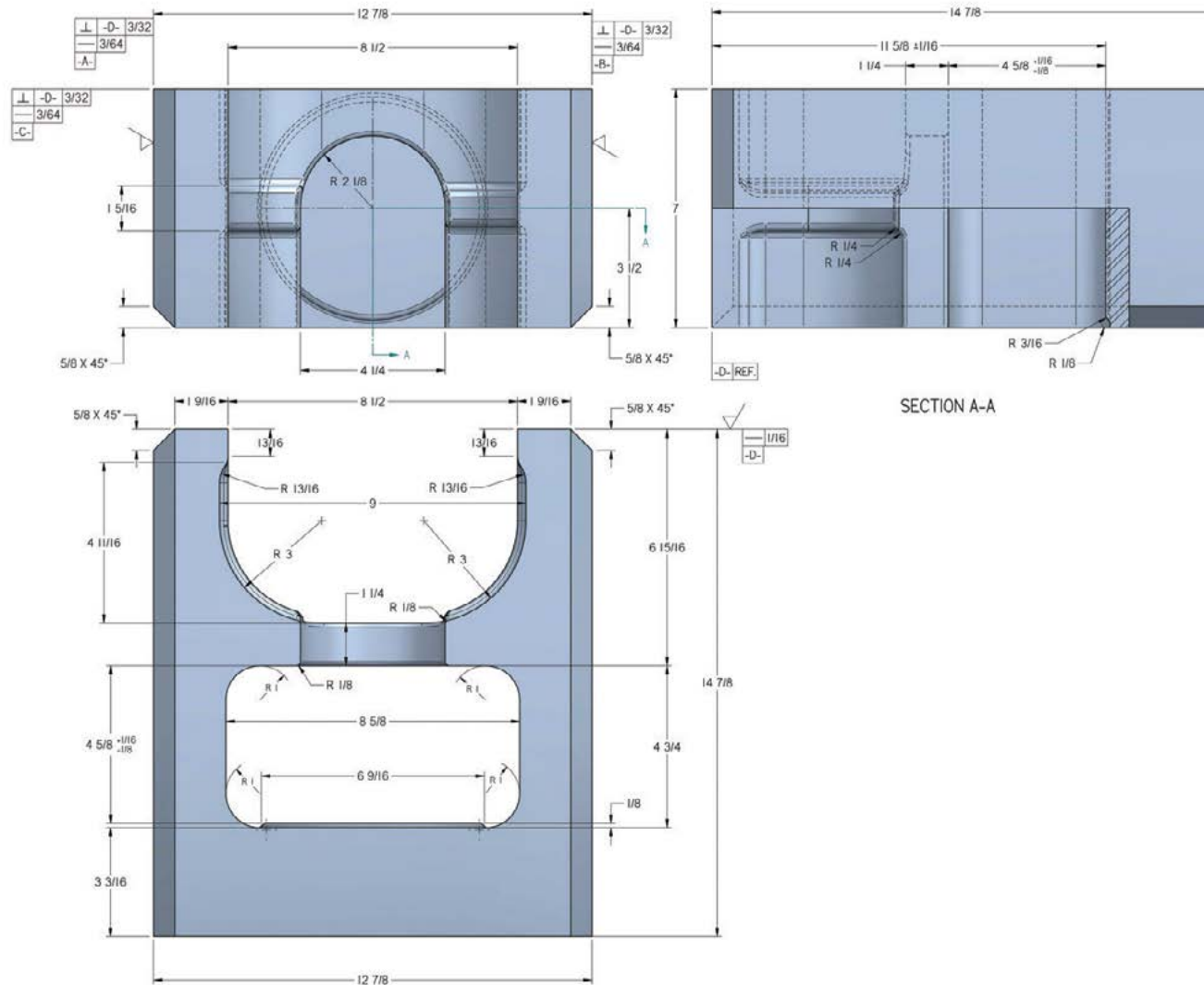


Backstop Casting EOC-3,4,5,6

Weight: 199.211 LBM

Material: A.A.R. M201, GRADE "B+" STEEL CASTING

Stock Code: 87.15306

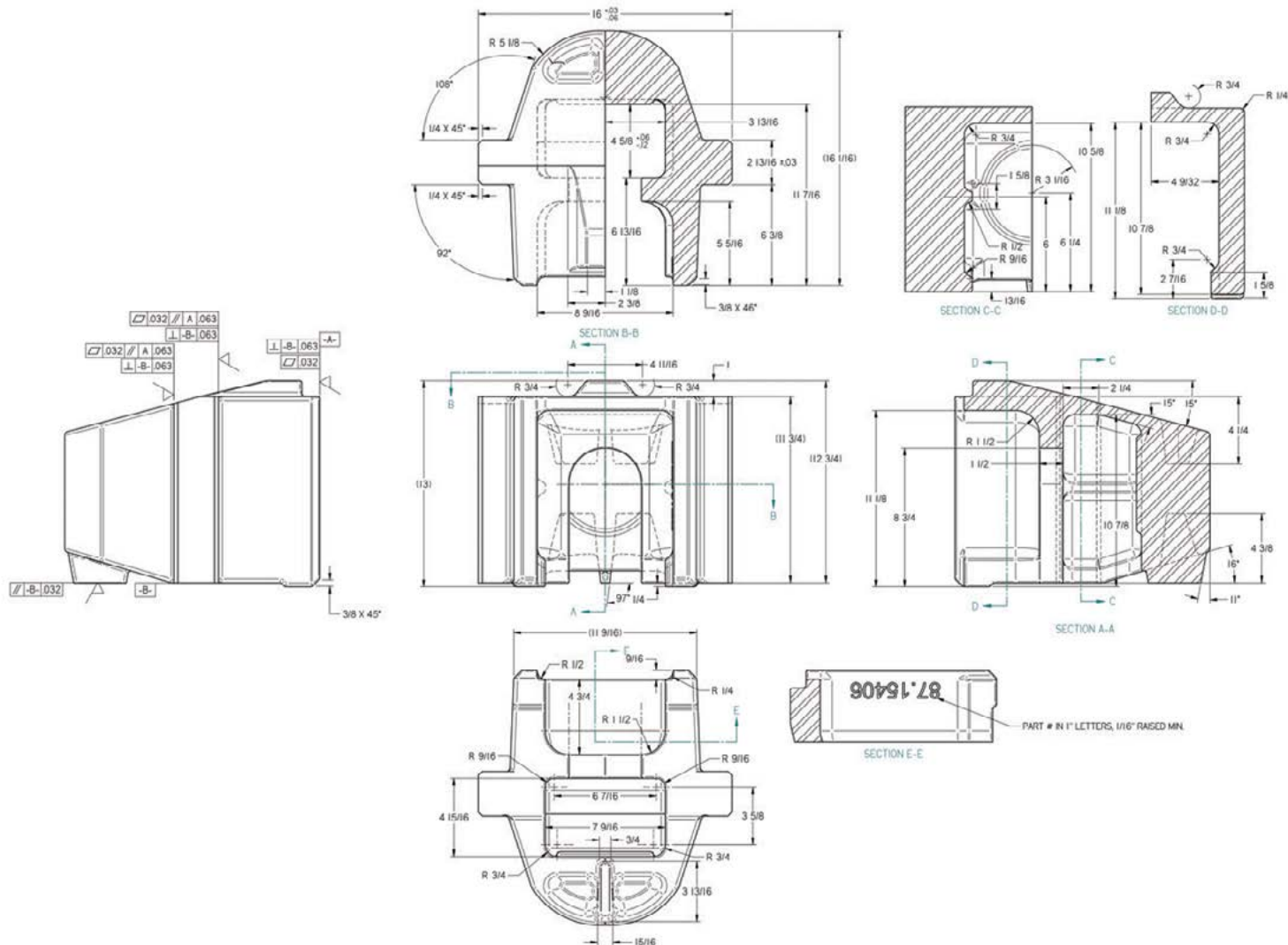


Backstop Casting EOC-1,2,16

Weight: 300.059 LBM

Material: A.A.R. M-201, GRADE "B+" STEEL CASTING

Stock Code: 87.15406

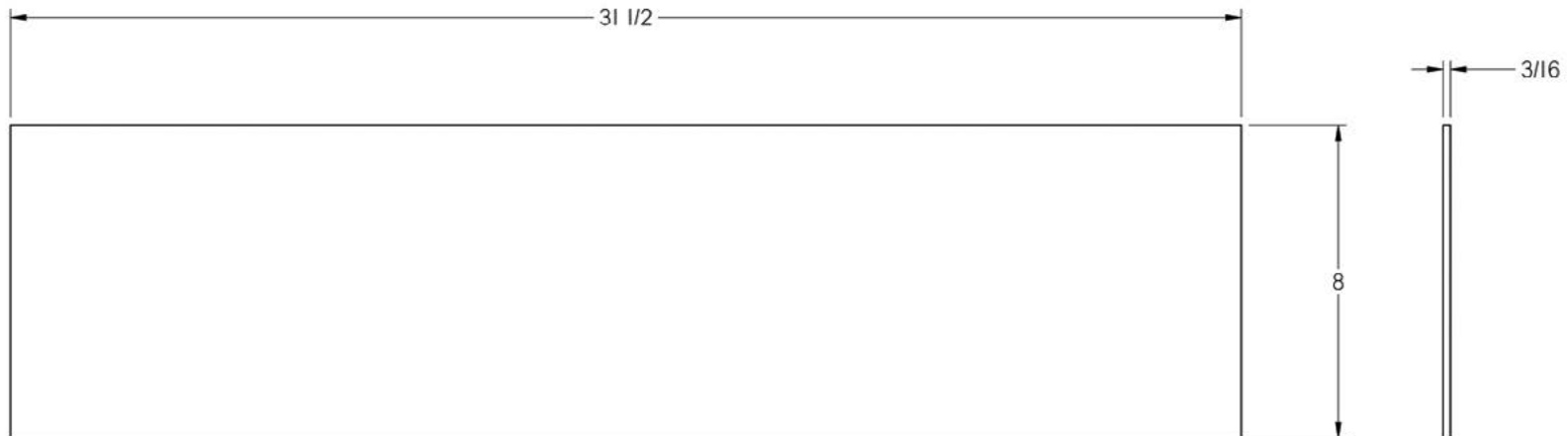


3/16 x 8 x 31-1/2 Wear Plate F15G

Weight: 13.371 LBM

Material: AR400 BNH

Stock Code: AH8033

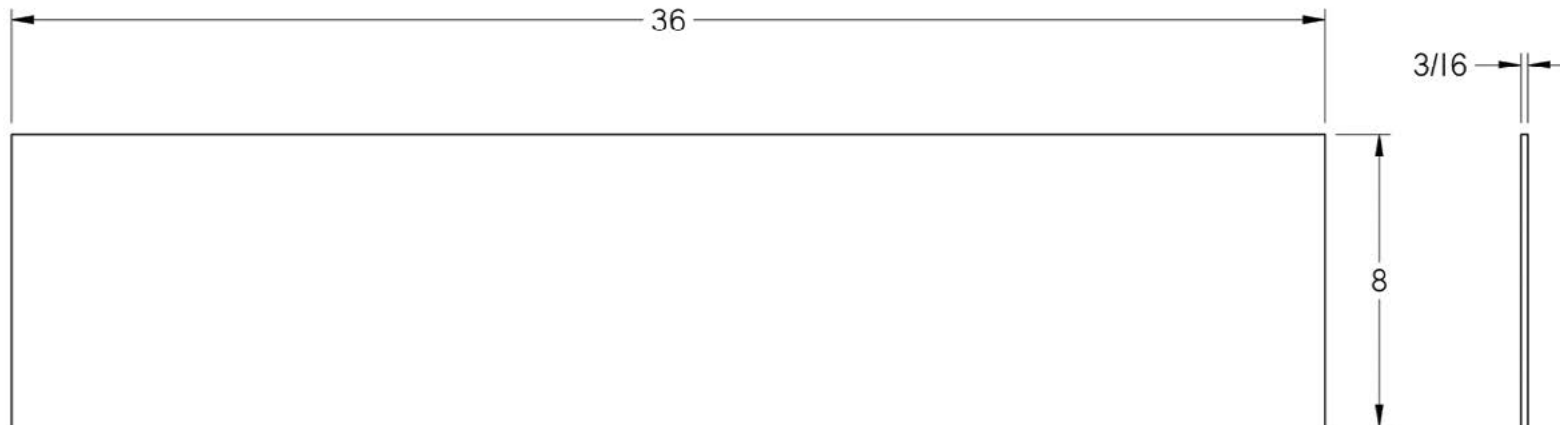


Top Sill WP F15G

Weight: 15.281 LBM

Material: T-1 TYPE A (ASTM A514 GR. B) 340-400 BNH OR AR400 BNH, 360 MIN. BNH

Stock Code: AH8022

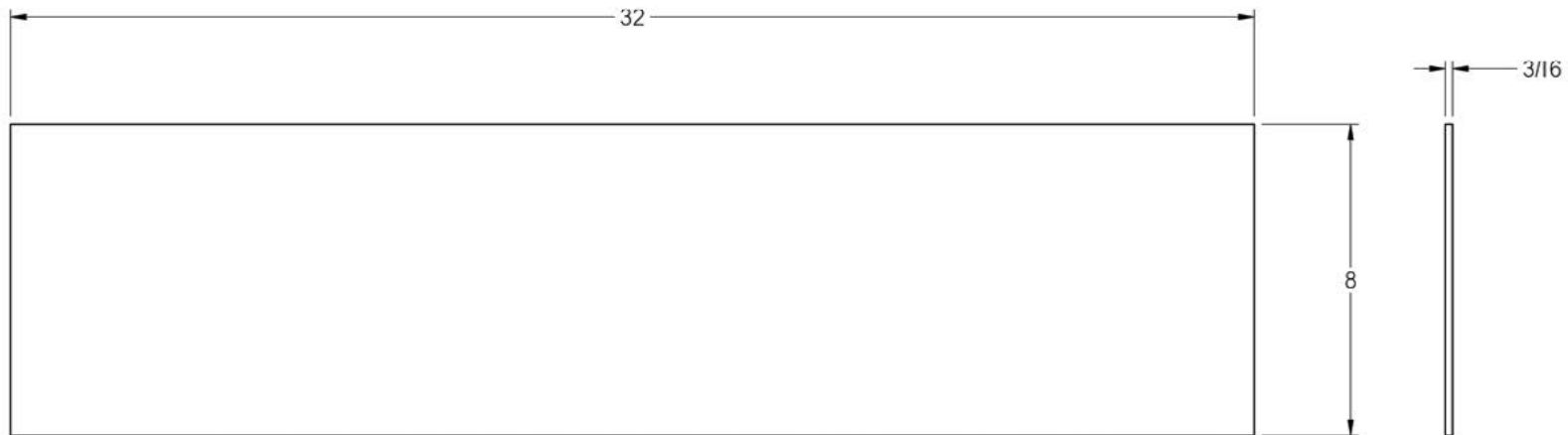


3/16 x 8 x 32 Wear Plate E15G

Weight: 13.583 LBM

Material: T-1 TYPE A (ASTM A514 GR B) 340-400 BNH OR AR400 BNH

Stock Code: AH8021

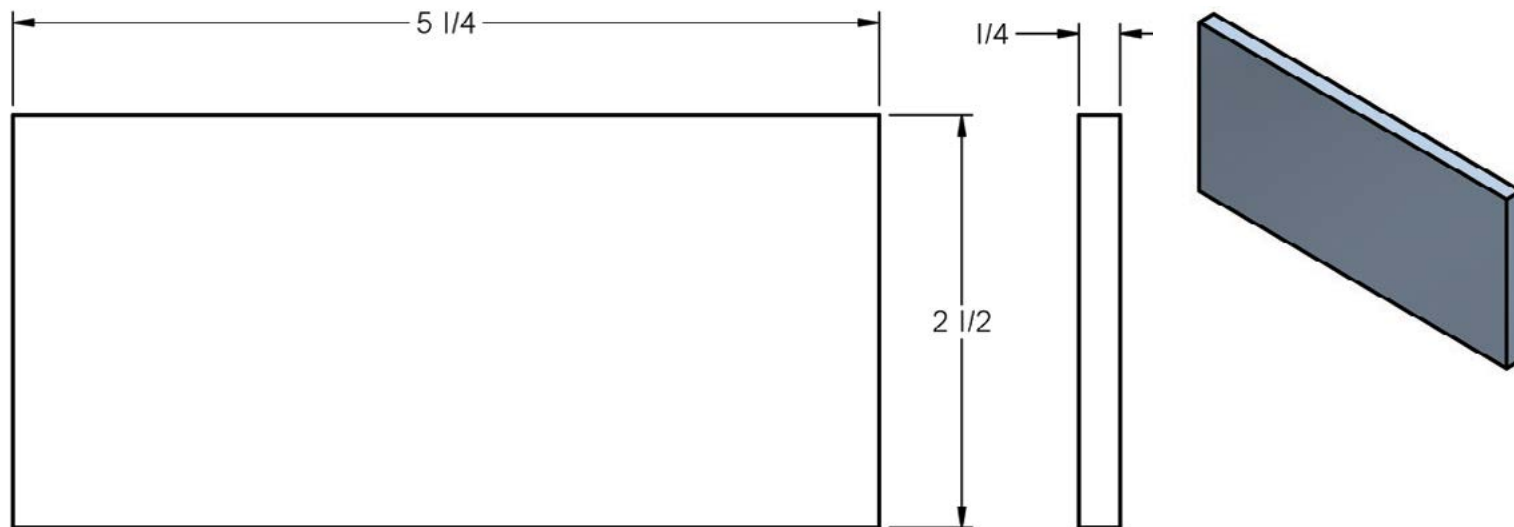


“E” Yoke Coupler Wear Plate

Weight: 0.938 LBM

Material: ASTM A128, 11%-14%, MANGANESE STEEL

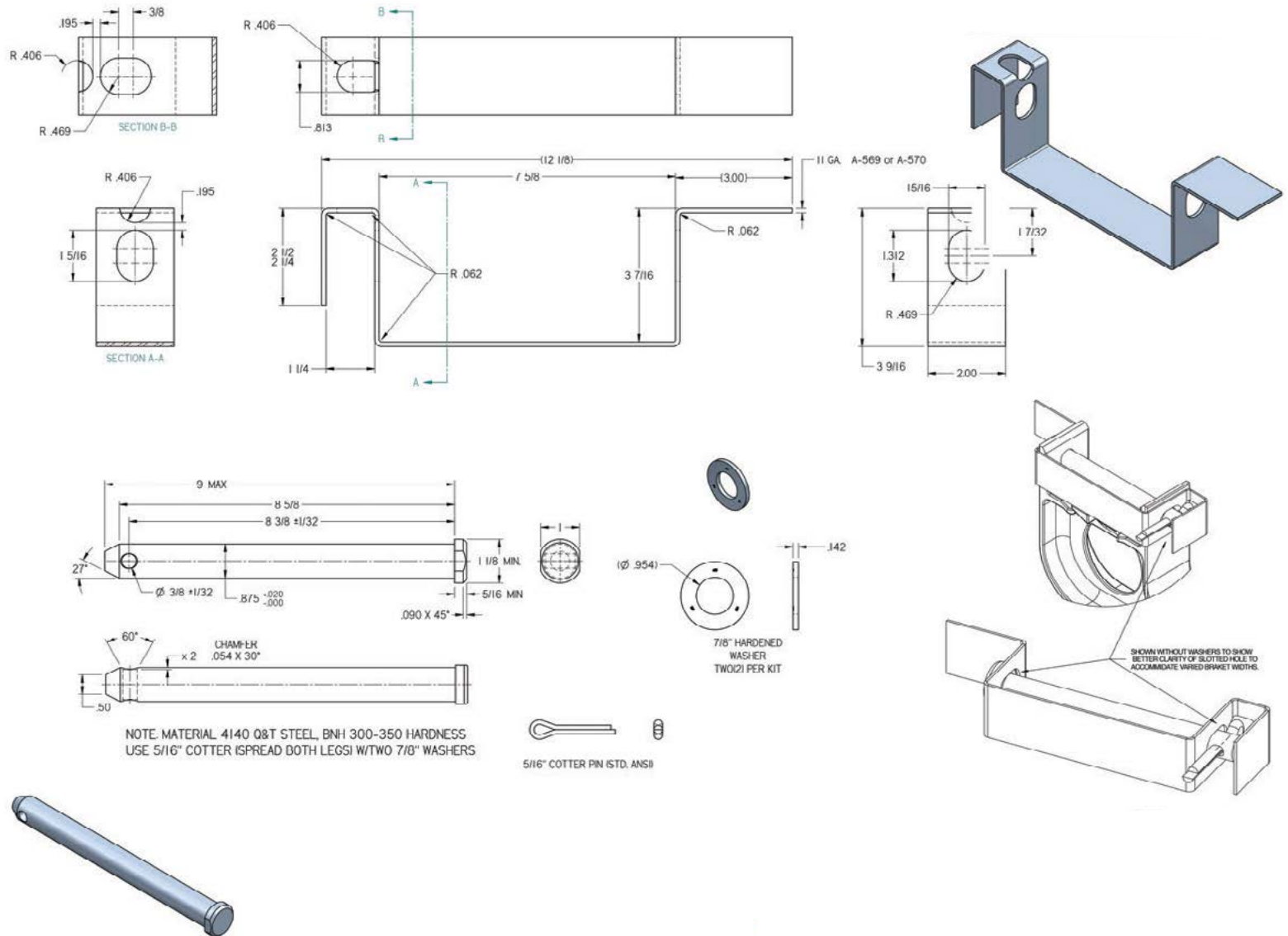
Stock Code: AH-12692



7/8" Vertical Pin Retaining System

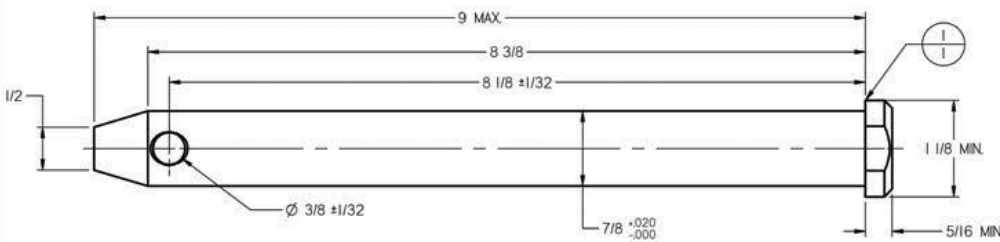
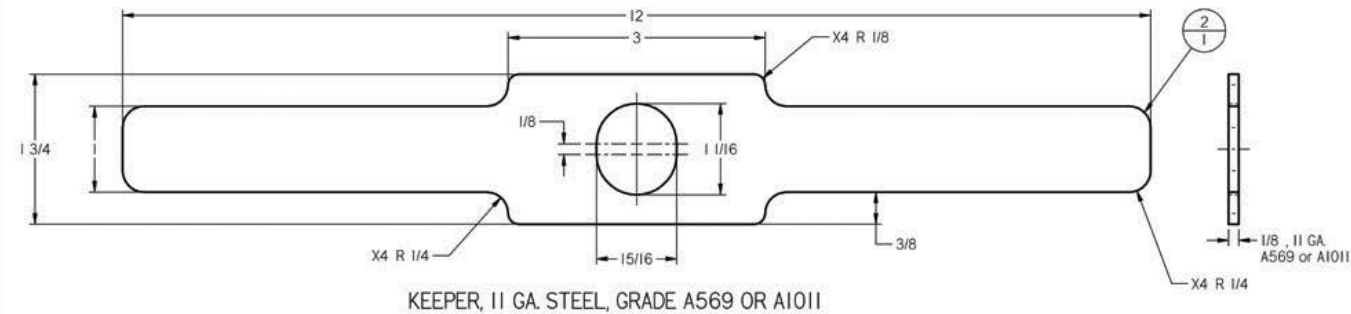
FOR BOTH ENDS

Stock Code: AH8112 A-C

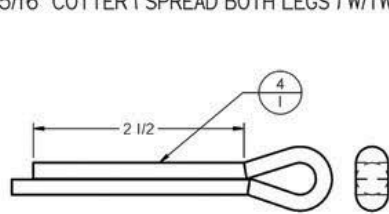


7/8" Vertical Pin Retaining System

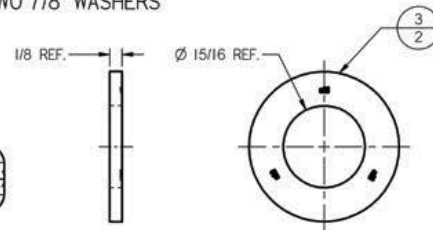
Stock Code: AH-8105 A-C



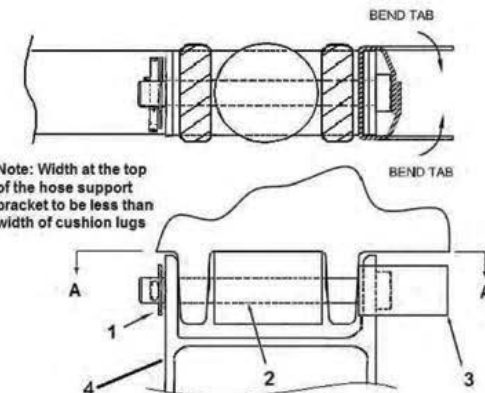
NOTE: MATERIAL 4140 Q&T STEEL, BNH 300-350 HARDNESS
USE 5/16" COTTER (SPREAD BOTH LEGS) W/TWO 7/8" WASHERS



5/16" COTTER PIN ASME B18.8.1
HARDENED or EQUIVALENT



7/8" HARDENED WASHER
TWO(2) PER KIT

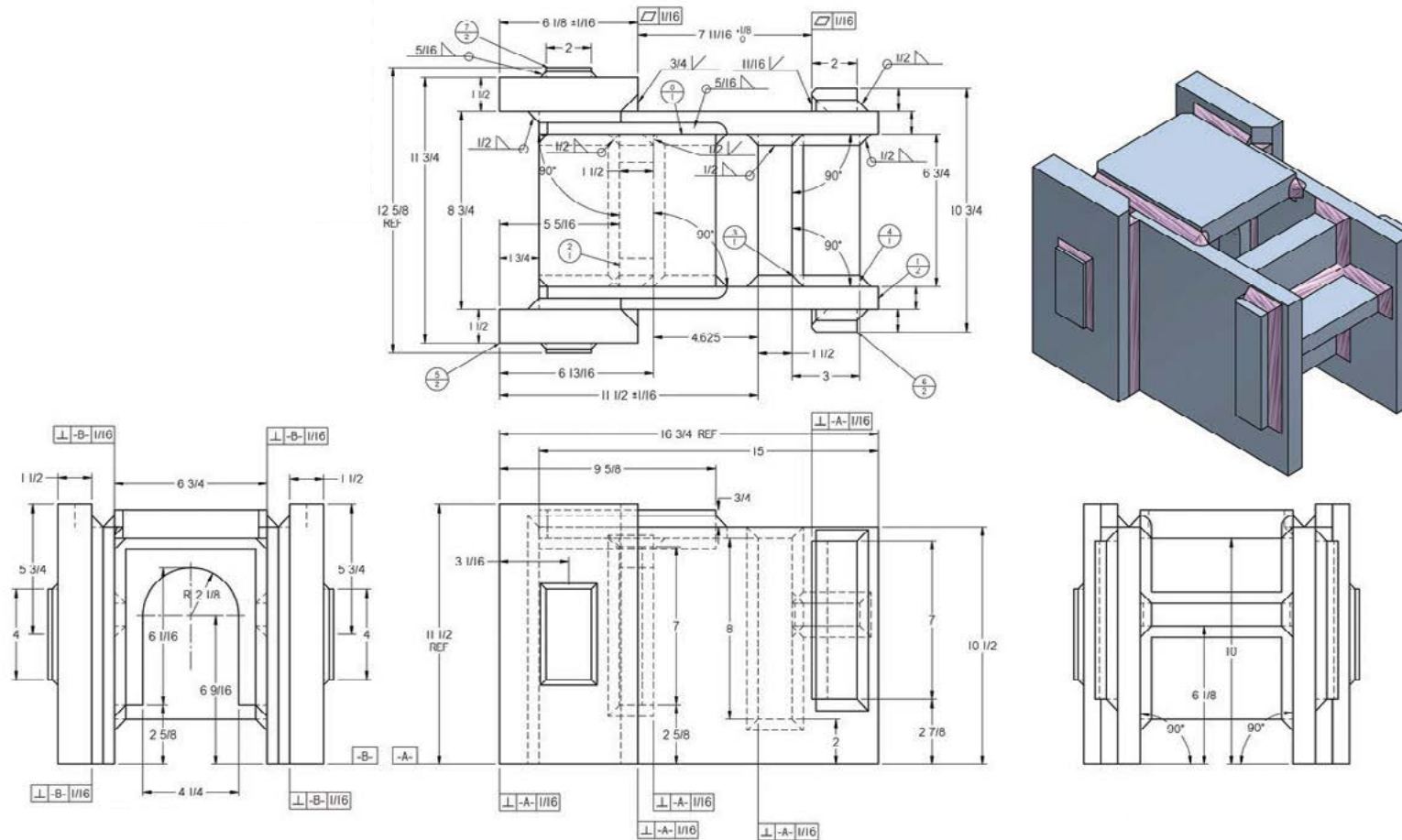


Note: Width at the top of the hose support bracket to be less than width of cushion lugs

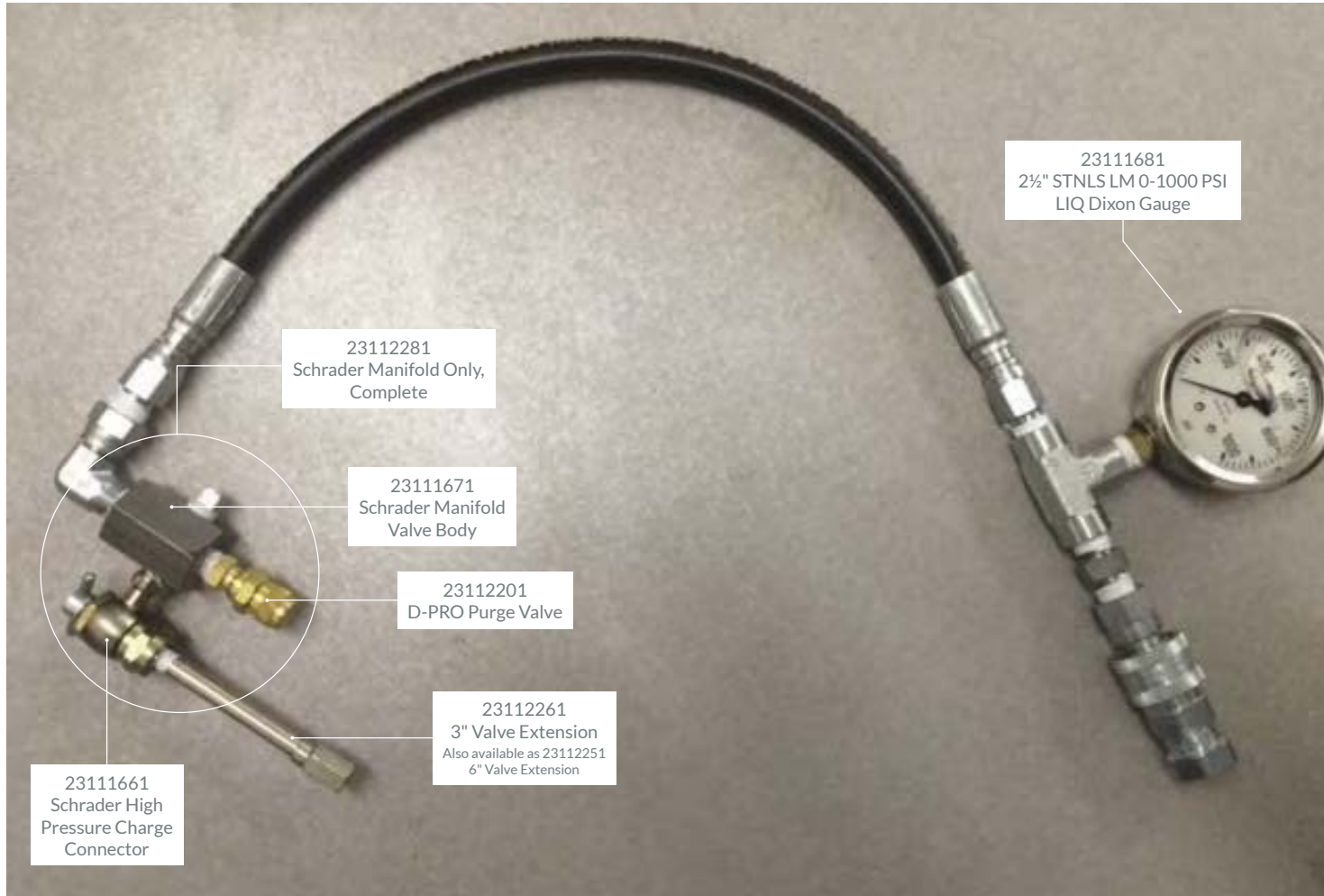
9542 Adaptor

Weight: 206

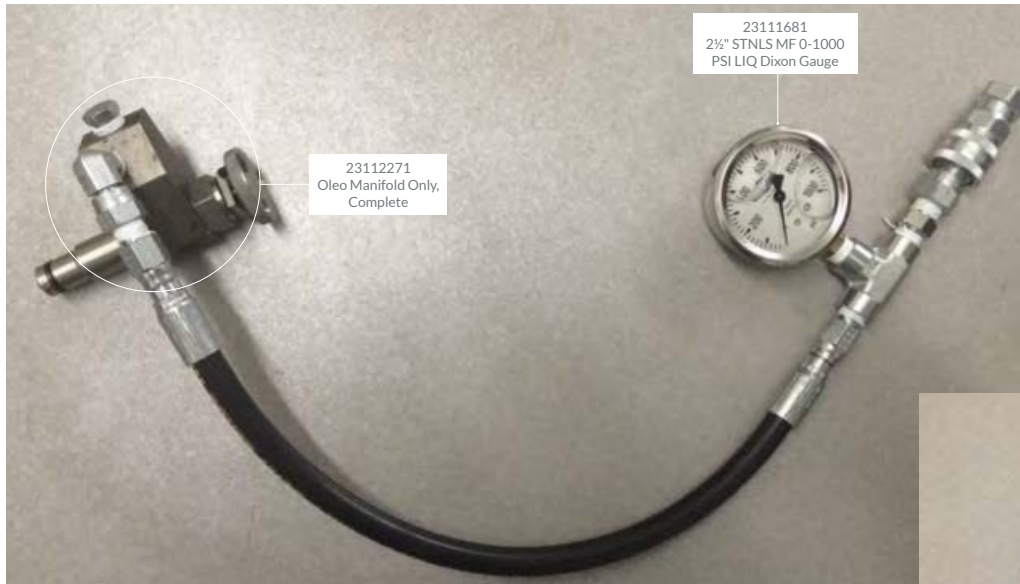
Material: ASTM-A-514 GRADE B, OR ASTM A-517 GRADE B USS T-1 TYPE A
100,000 YIELD, 110,000 - 135,000 TENSILE



23111721 Schrader, Manifold Complete Bleed



23107211 Oleo Manifold Complete Bleed



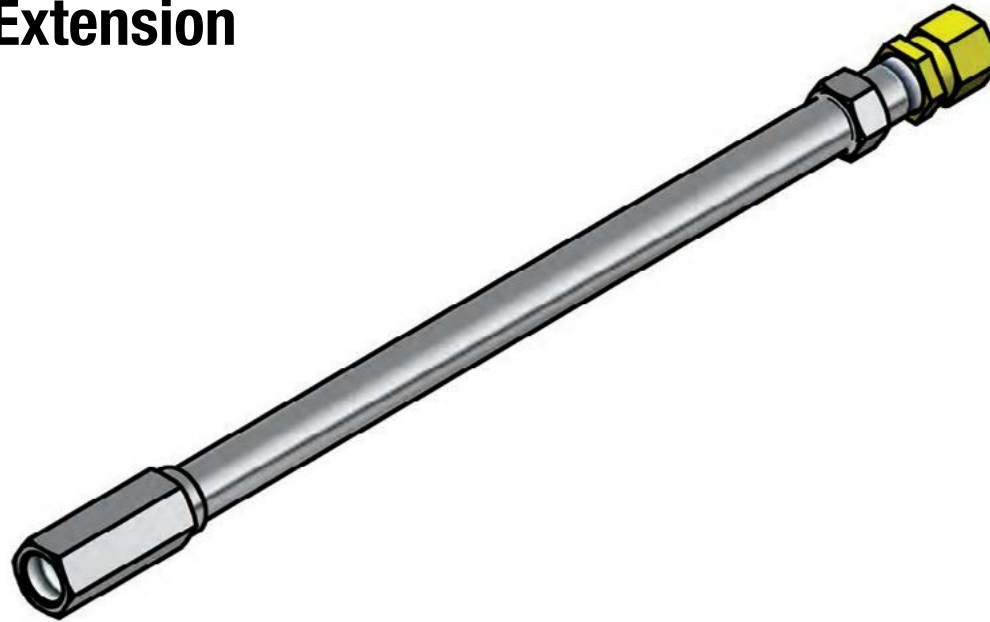
HE-393 6" Valve Extension

Effective Length: 6"

Weight: 0.160 LBM

Material: BRASS/NICKEL PLATED

Stock Code: 23112251



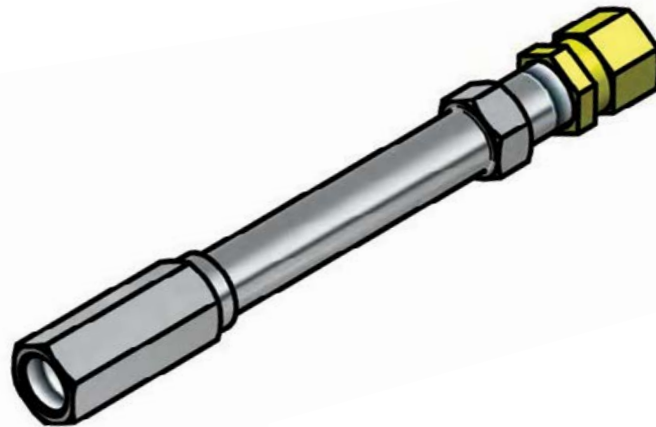
HE-371, 3" Valve Extension

Effective Length: 2-15/16"

Weight: 0.095 LBM

Material: BRASS/NICKEL PLATED

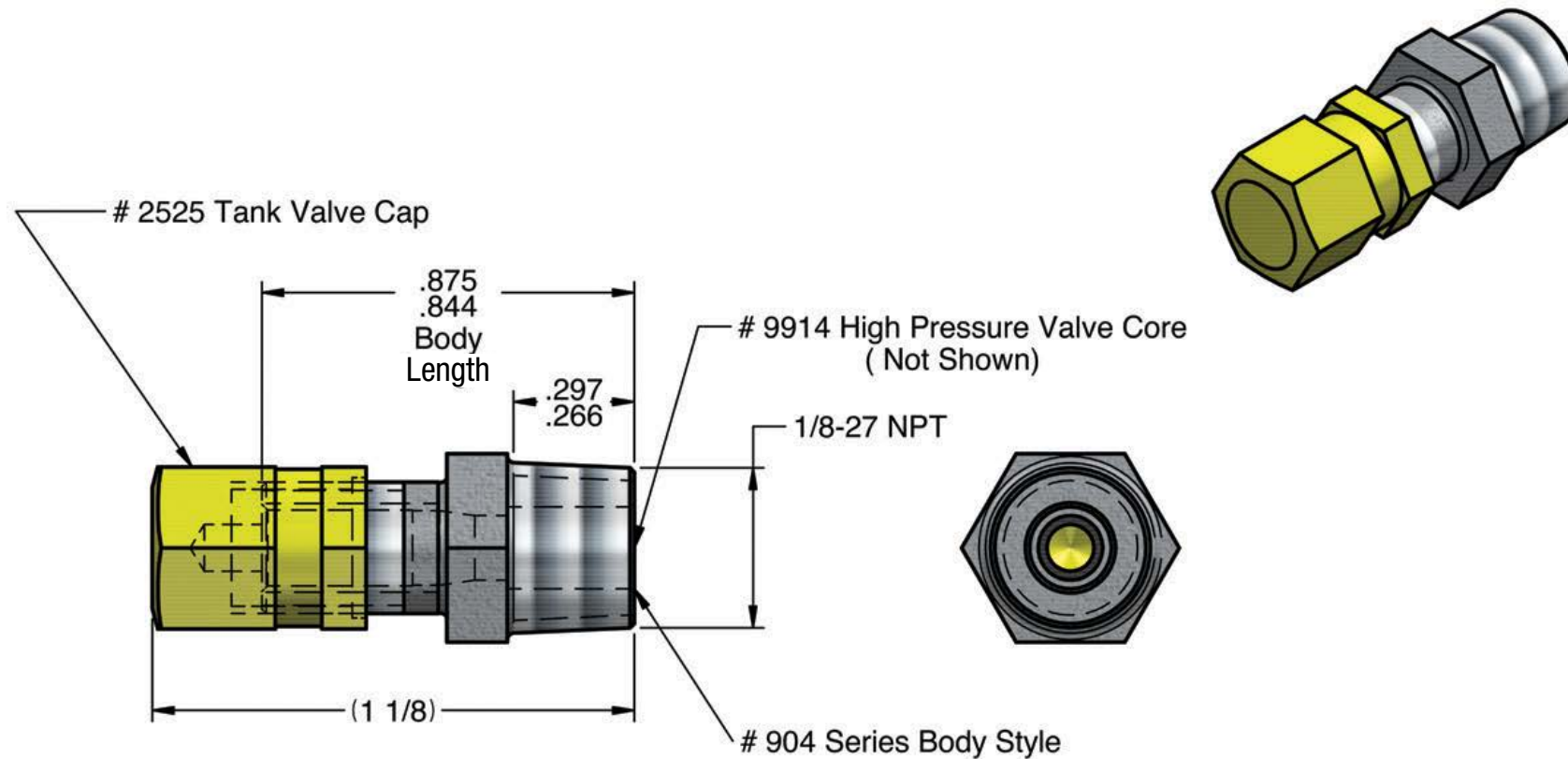
Stock Code: 23112261



Schrader High Pressure Tank Valve

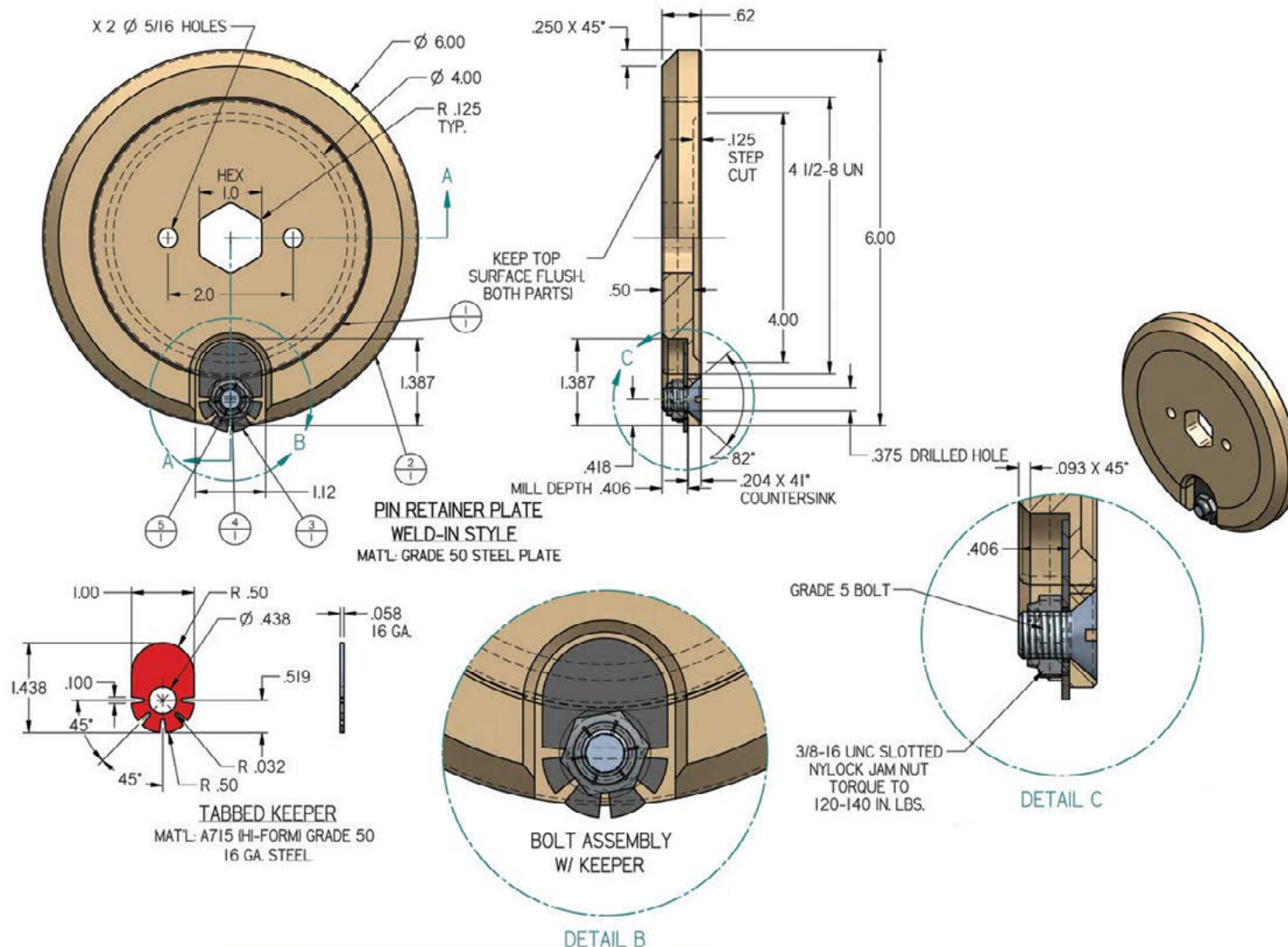
Stock Code: 23103701

Schrader International Part #: 8090401047



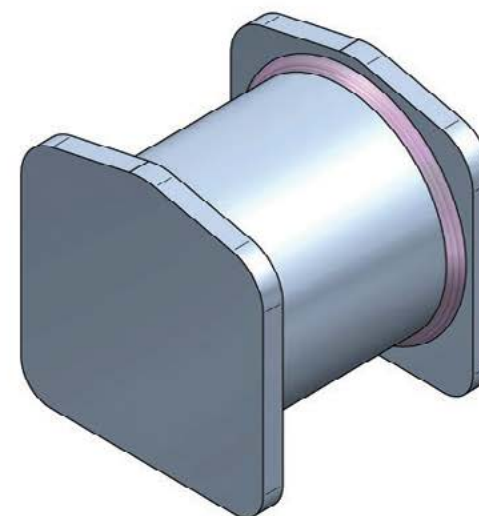
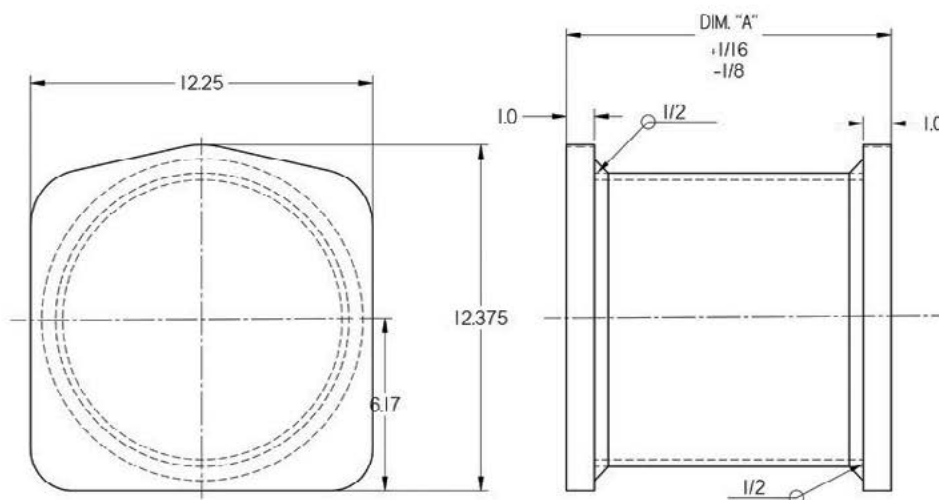
AH Threaded Pin Plate

Weight: 4.314 LBM
Stock Code: AH-5033C

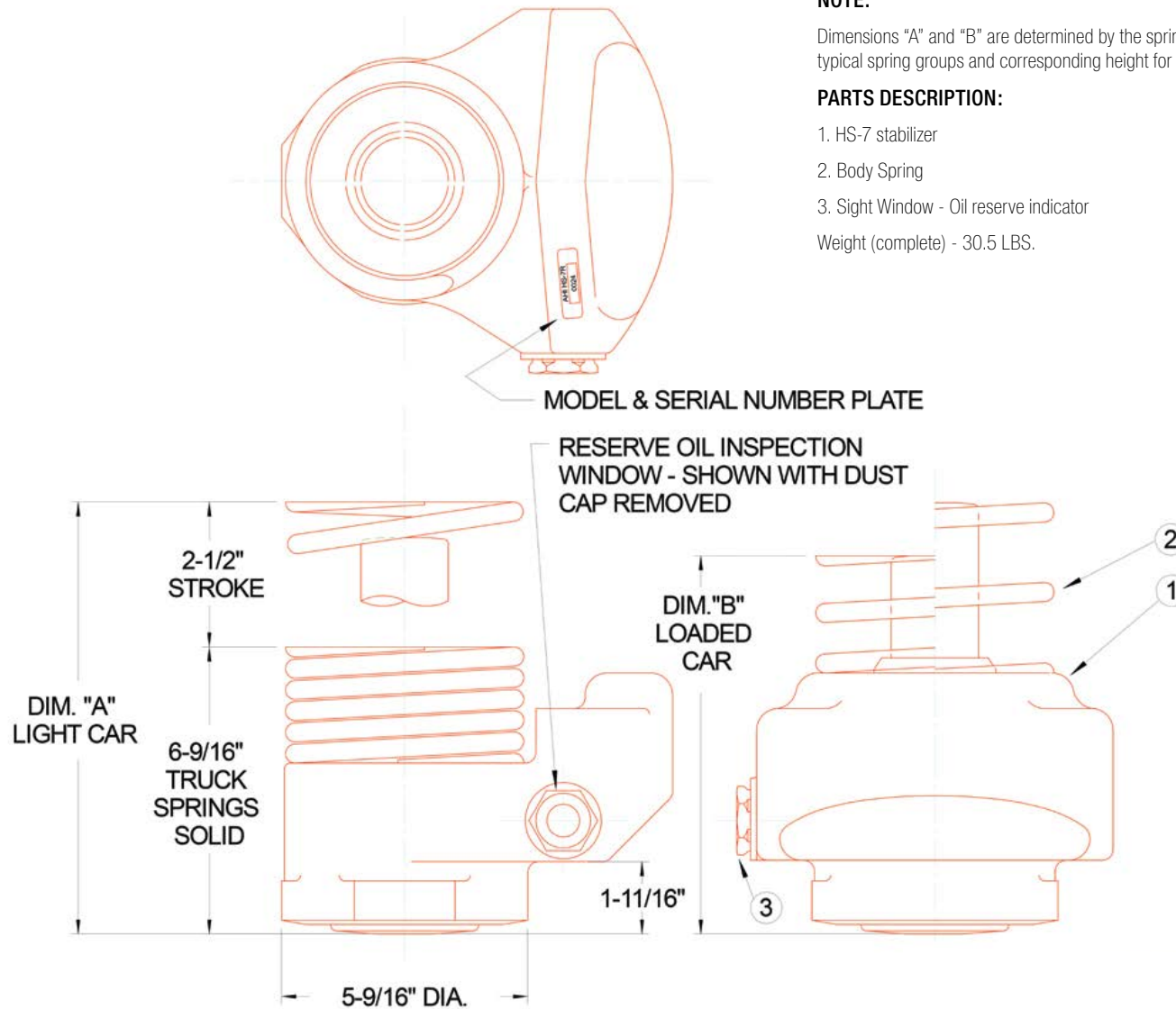


Filler Block Assembly

FILLER BLOCK OVERALL LENGTHS			
PART #	FOR UNIT TYPE	LENGTH DIM. "A"	Stock Code
AH-8017A	F20B	11.625"	AH8017A
AH-8017B	F30B & HYDRAFRAME 60	37.0"	AH8017B
AH-8017C	NATIONAL 3C	29.25"	AH8017C
AH-8017D	HYDRAFRAME 40	9.5"	AH8017D



HS-7 Snubber



NOTE:

Dimensions "A" and "B" are determined by the spring group arrangement, for use in typical spring groups and corresponding height for 100 ton cars.

PARTS DESCRIPTION:

1. HS-7 stabilizer
2. Body Spring
3. Sight Window - Oil reserve indicator

Weight (complete) - 30.5 LBS.

HS-7-100 Snubber

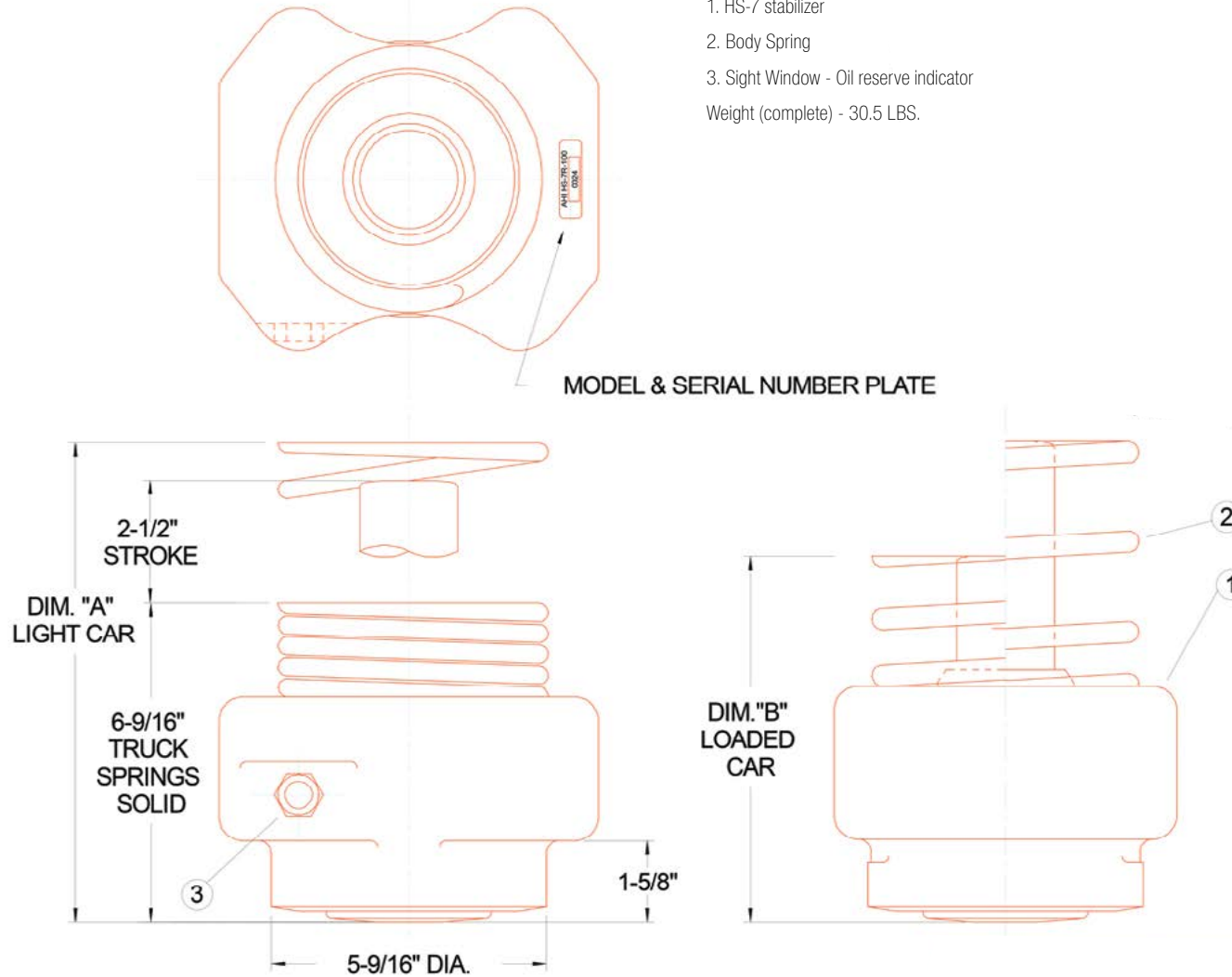
NOTE:

Dimensions "A" and "B" are determined by the spring group arrangement. for use in typical spring groups and corresponding height for 100 ton cars.

PARTS DESCRIPTION:

1. HS-7 stabilizer
2. Body Spring
3. Sight Window - Oil reserve indicator

Weight (complete) - 30.5 LBS.

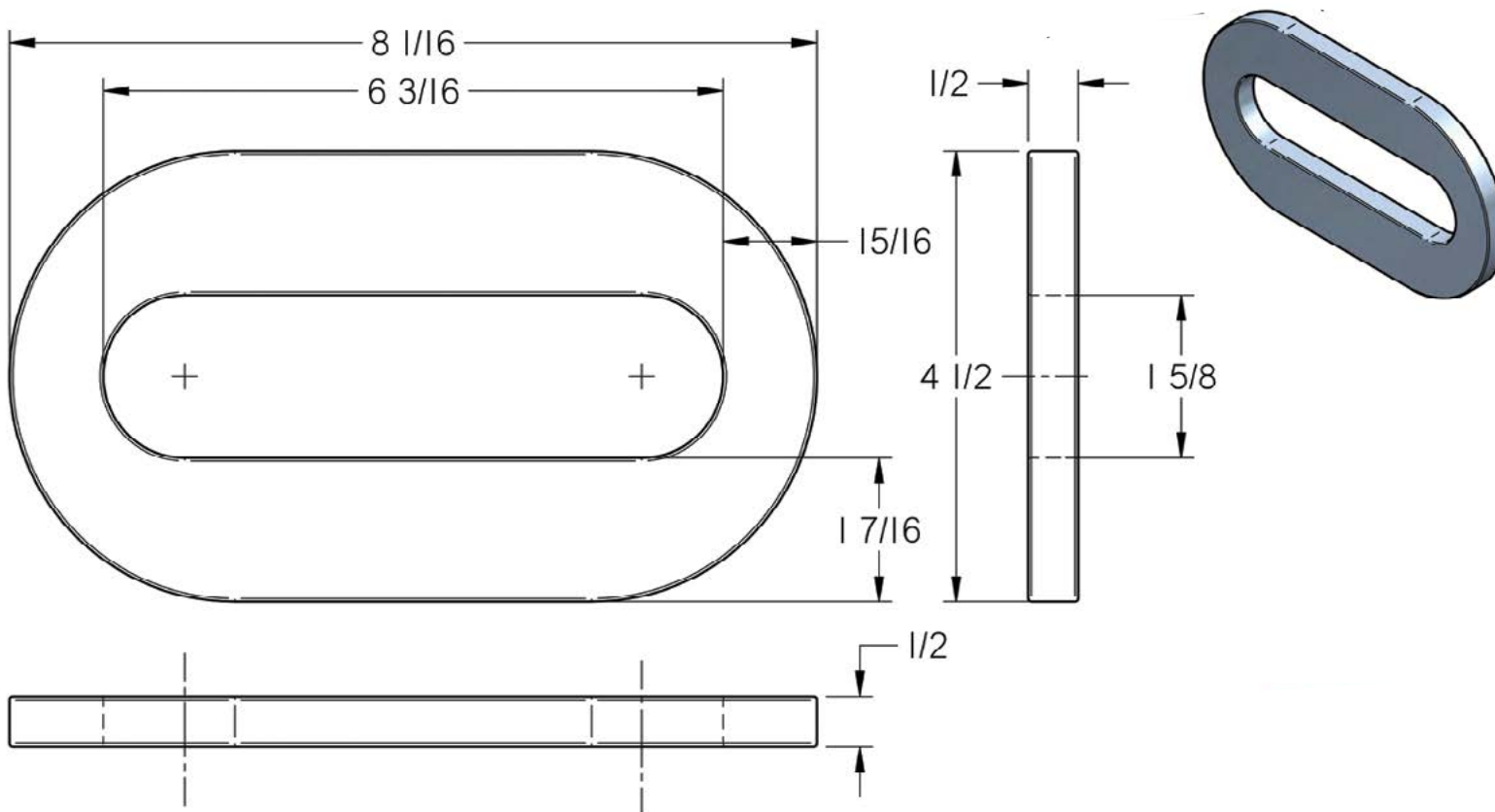


Draft Key Washer

Weight: 3.172 LBM

Material: ASTM A576 GRADE C 1030 STEEL

Part #: 90004397

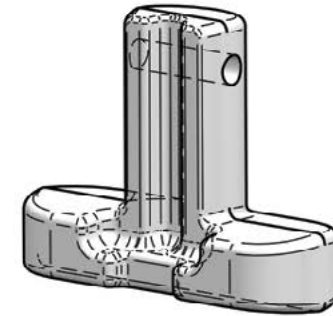
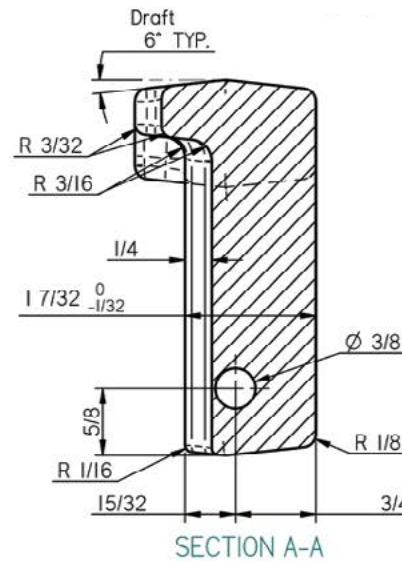
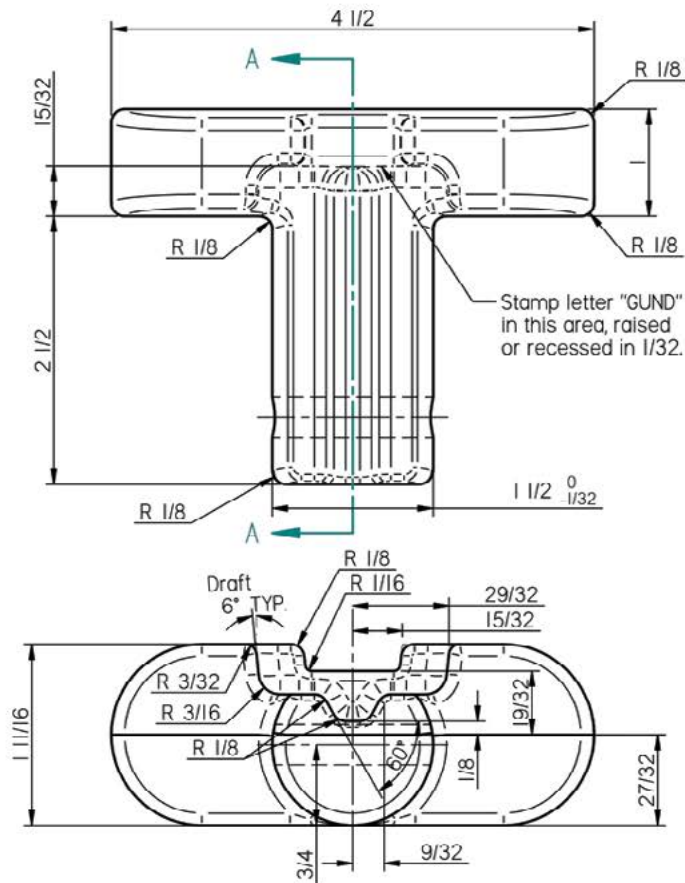


Draft Key Retainer

Weight: 2.629 LBM

Material: DROP FORGED, ANSI C-1030 STEEL

Stock Code: AH671011-03



NOTE:

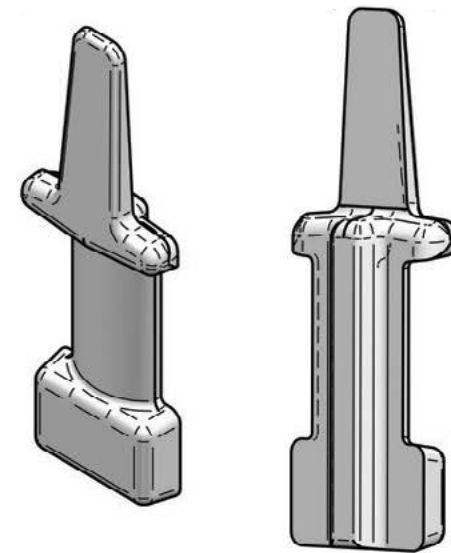
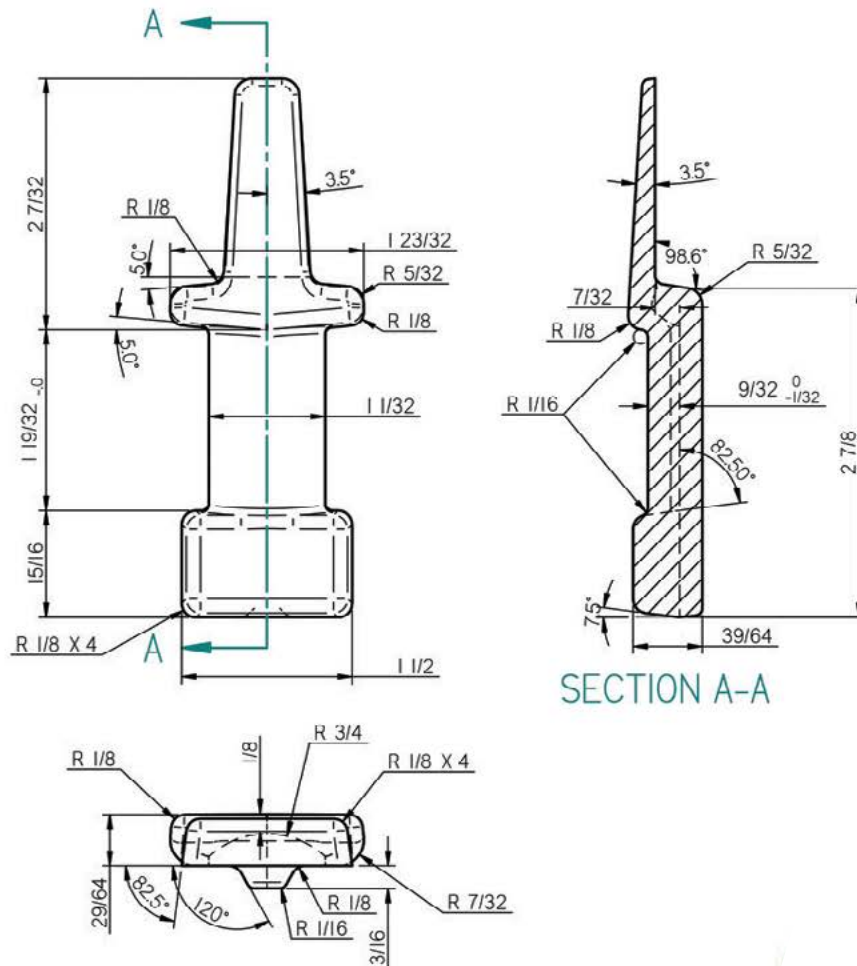
1. Quality requirements are defined in Gunderson quality documents OQD00019.doc
2. Part is symmetrical on cutting plane A-A
3. Unspecified round and RADII to be $\frac{1}{32}$ ".

Draft Key Lock

Weight: 0.438 LBM

Material: DROP FORGED, ANSI C-1020 STEEL

Part #: AH671011-04



NOTE:

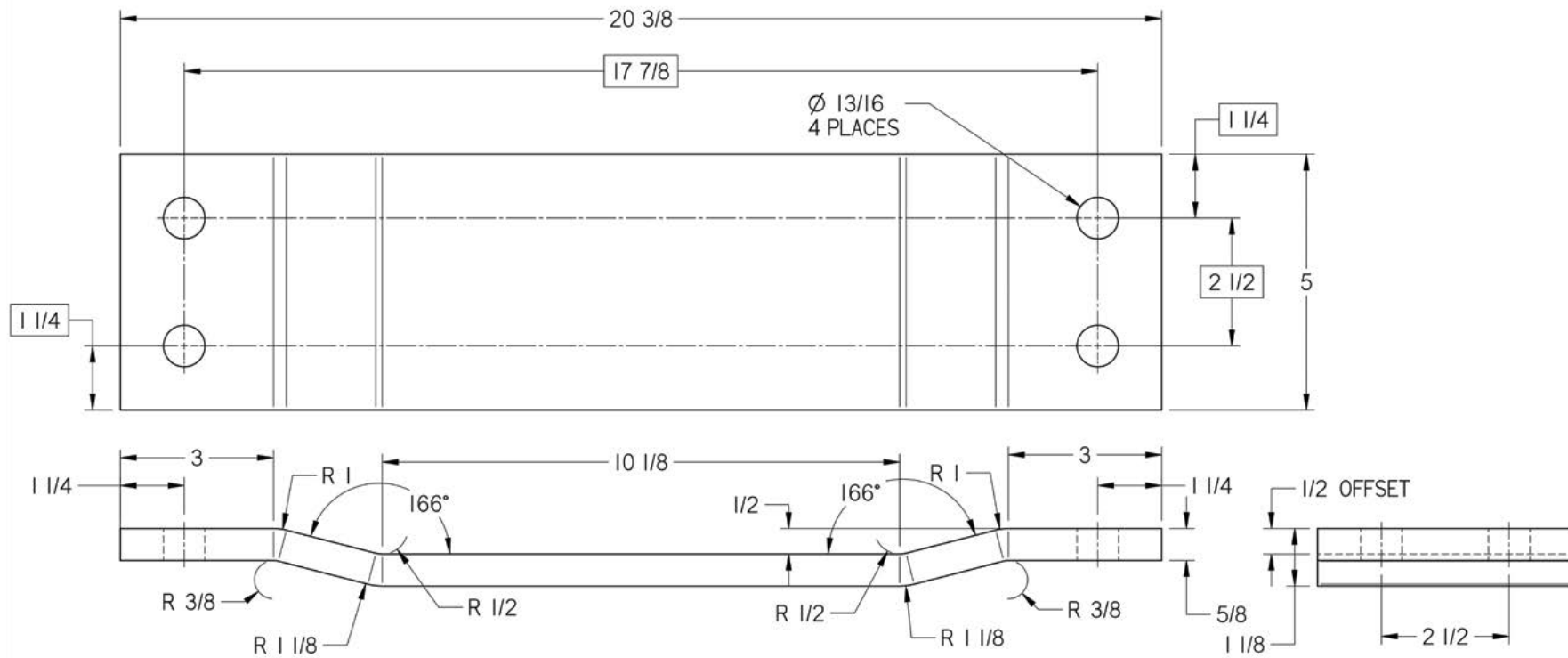
1. Quality requirements are defined in gunderson quality documents OQD00019.doc
2. Part is symmetrical on cutting plane A-A
3. Unspecified RADII to be $1/32$ ".
4. Draft angle to be 5° unless otherwise specified.

EOC UNT Support Wide

Weight: 17.760 LBM

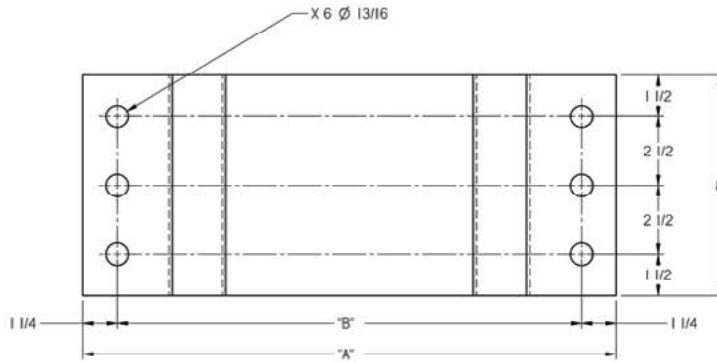
Material: 1018 CR STEEL

Stock Code: C-1883

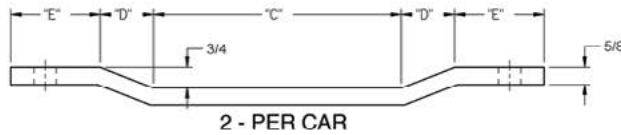


Draft Gear Carrier

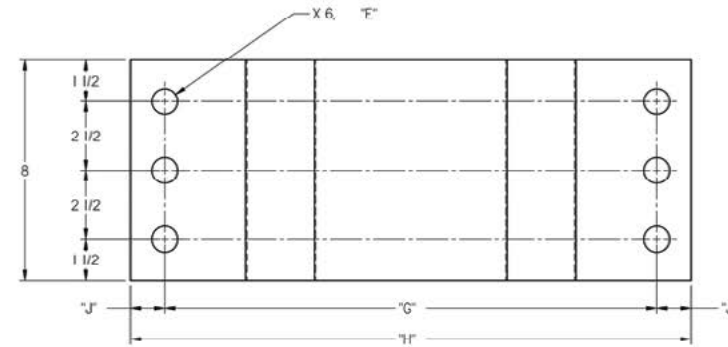
Material: A.A.R. SPEC. M-116, GRADE A, MILD STEEL



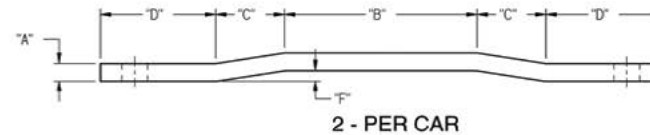
STYLE # 1



STYLE # 1, DRAFT GEAR CARRIER PLATE							
STOCK CODE	UP CAR CLASS	S.I. NO.	A	B	C	D	E
18054	R-40-1	18054	19-3/8"	16-7/8"	9"	1-15/16"	3-1/4"
20F-294	B-50-44	20F-294	20-3/8"	17-7/8"	10"	3/4"	4-7/16"



STYLE # 2



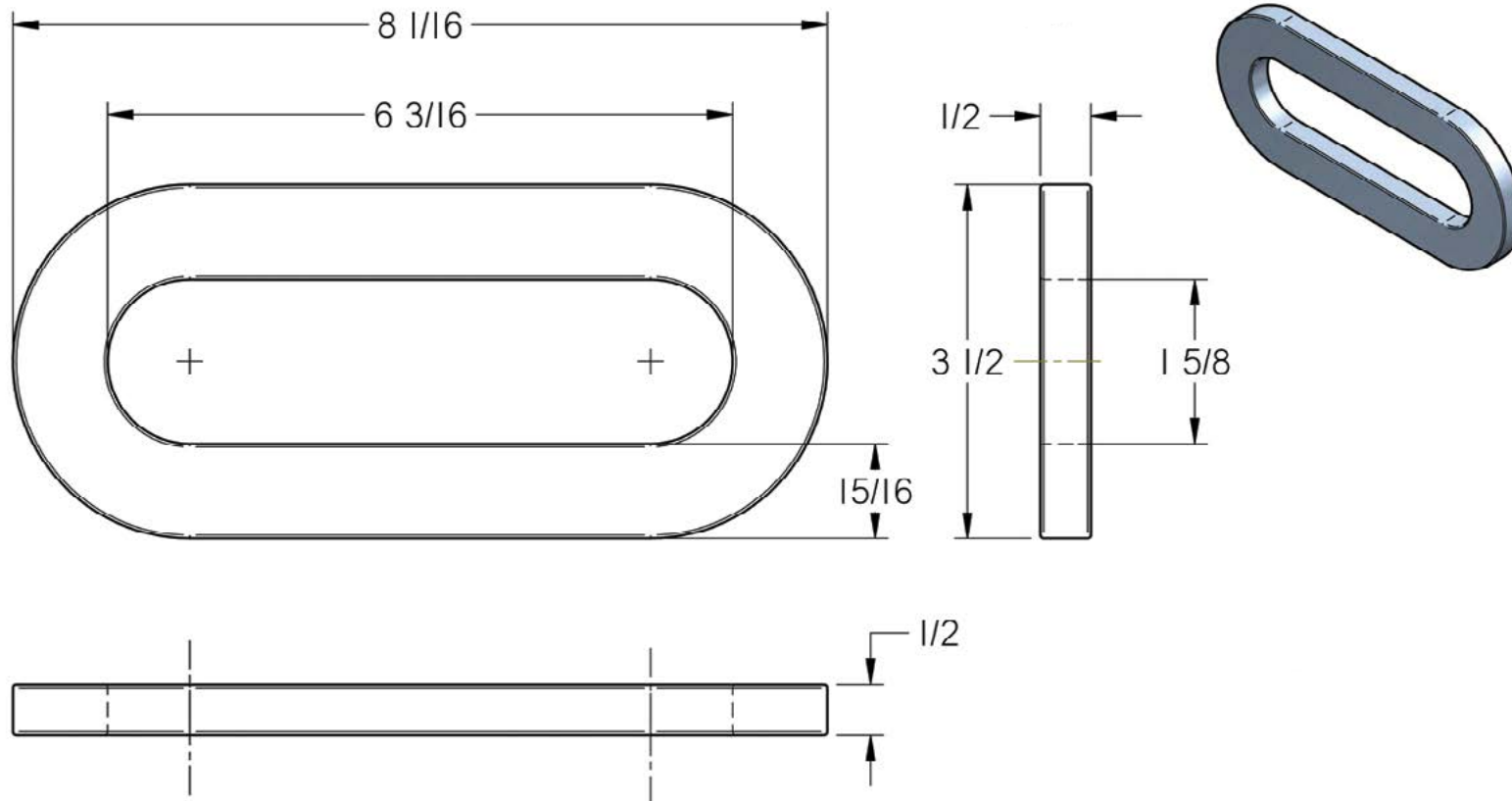
STYLE # 2, DRAFT GEAR CARRIER PLATE											
STOCK CODE	UP CAR CLASS	S.I. NO.	A	B	C	D	E	F	G	H	J
20F-227	B-50-40, A-50-22, H-40-1, GH-70-4-6-7-8	20F-227	5/8"	7"	2-1/2"	4-3/16"	15/16"	3/8"	17-7/8"	20-3/8"	1-1/4"
20F-249	CH-70-2-5	20F-249	1"	7"	2-1/2"	4-3/16"	15/16"	1/4"	17-7/8"	20-3/8"	1-1/4"
20F-95	B-50-41, HK-70-2, R-40-10, B-50-18-19	20F-95	5/8"	7"	2-1/2"	4-3/16"	13/16"	3/8"	17-7/8"	20-3/8"	1-1/4"
20F-263	F-20-1, F-50-15, F-50-16	20F-263	5/8"	7"	2-1/2"	5"	13/16"	1/4"	19-1/2"	22"	1-1/4"
20F-296	RF-70-1,5,7,8	20F-296	5/8"	7"	2-1/2"	5"	15/16"	1/4"	19-1/2"	22"	1-1/4"

Draft Key Washer

Weight: 2.274 LBM

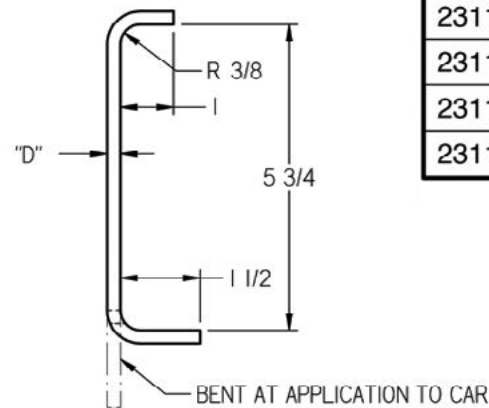
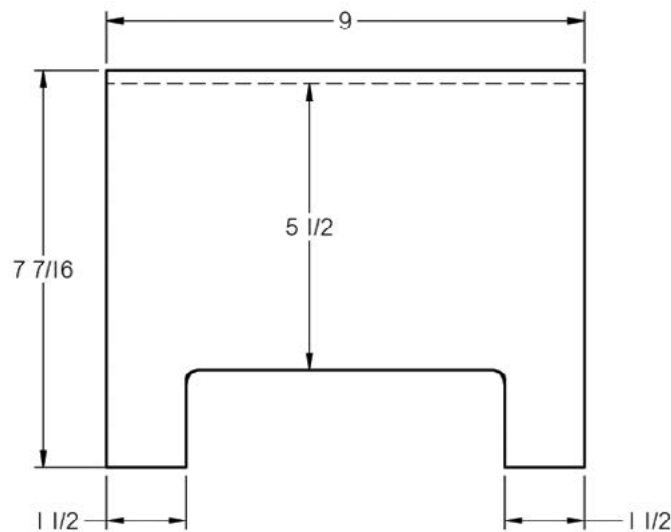
Material: ASTM A576 GRADE C 1030 STEEL

Part #: 6A644300



Draft Gear Coupler Shim

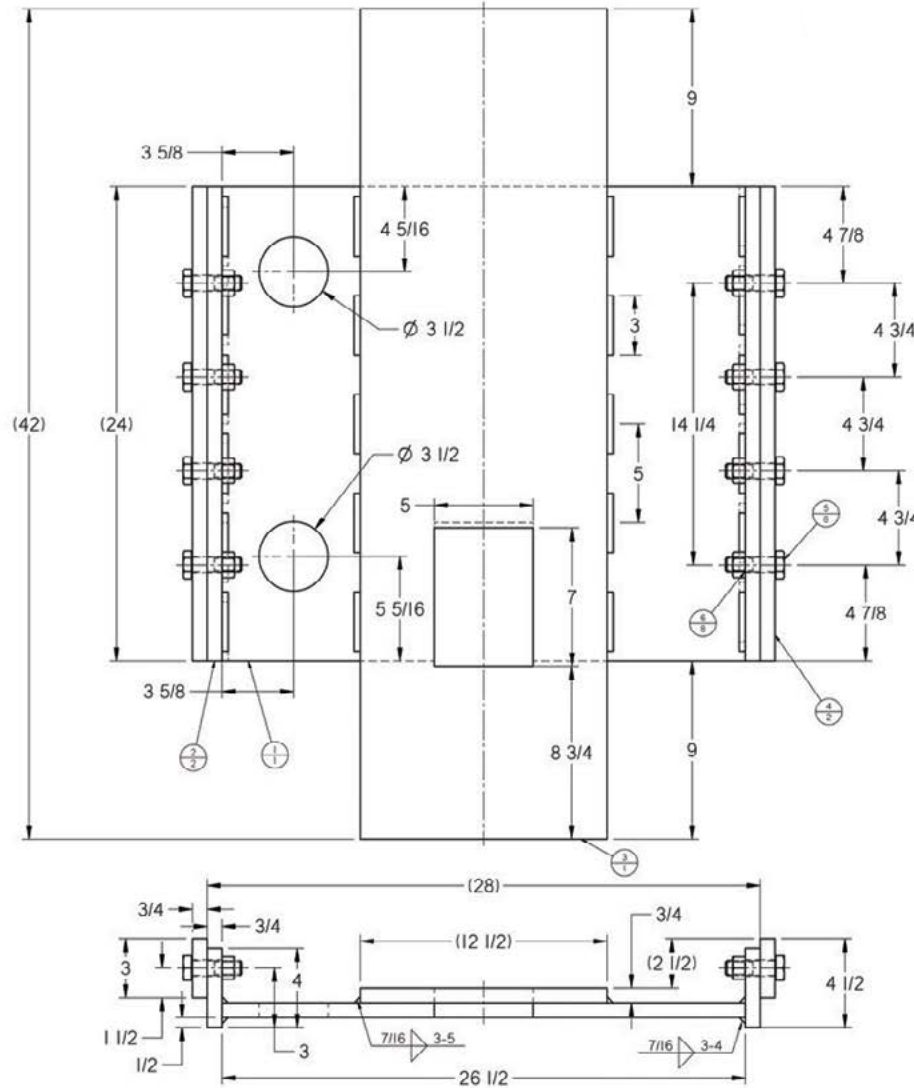
Material: GRADE 50, STEEL PLATE



DRAFT GEAR COUPLER SHIM		
STOCK CODE	UP PART #	"D"
23113901	20F-222	1/4"
23113911	20F-223	3/8"
23113921	20F-224	1/2"
23113931	20F-225	5/8"
23113941	20F-226	3/4"

SA-G-HR Carrier Assembly

Weight: 303.386 LBM
Material: GRADE 50 PLATE
Stock Code: D-16793

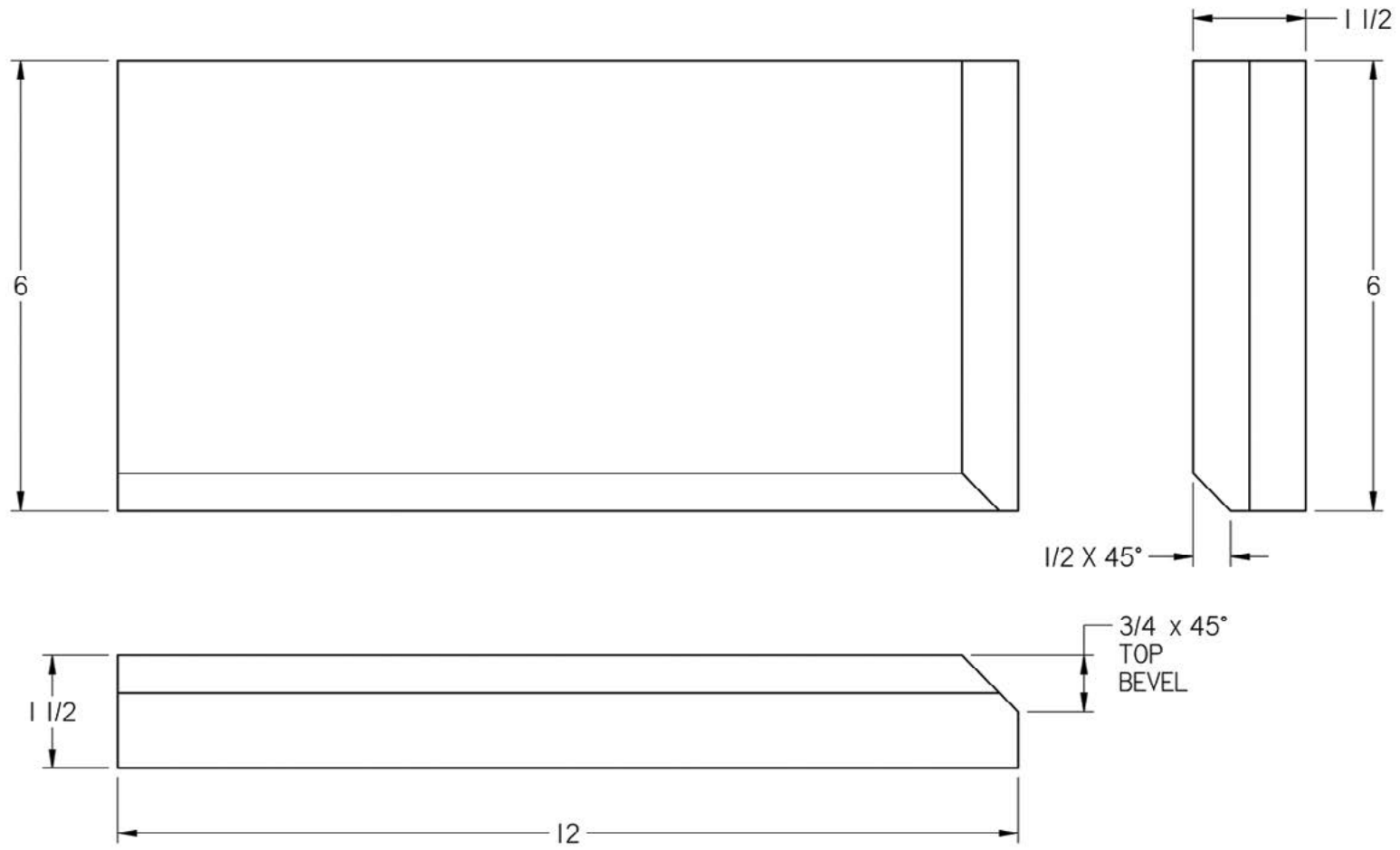


GHR Unit Stop Right Side

Weight: 29.681 LBM

Material: A-572, GR. 50 PLATE STEEL

Stock Code: GHR-1006

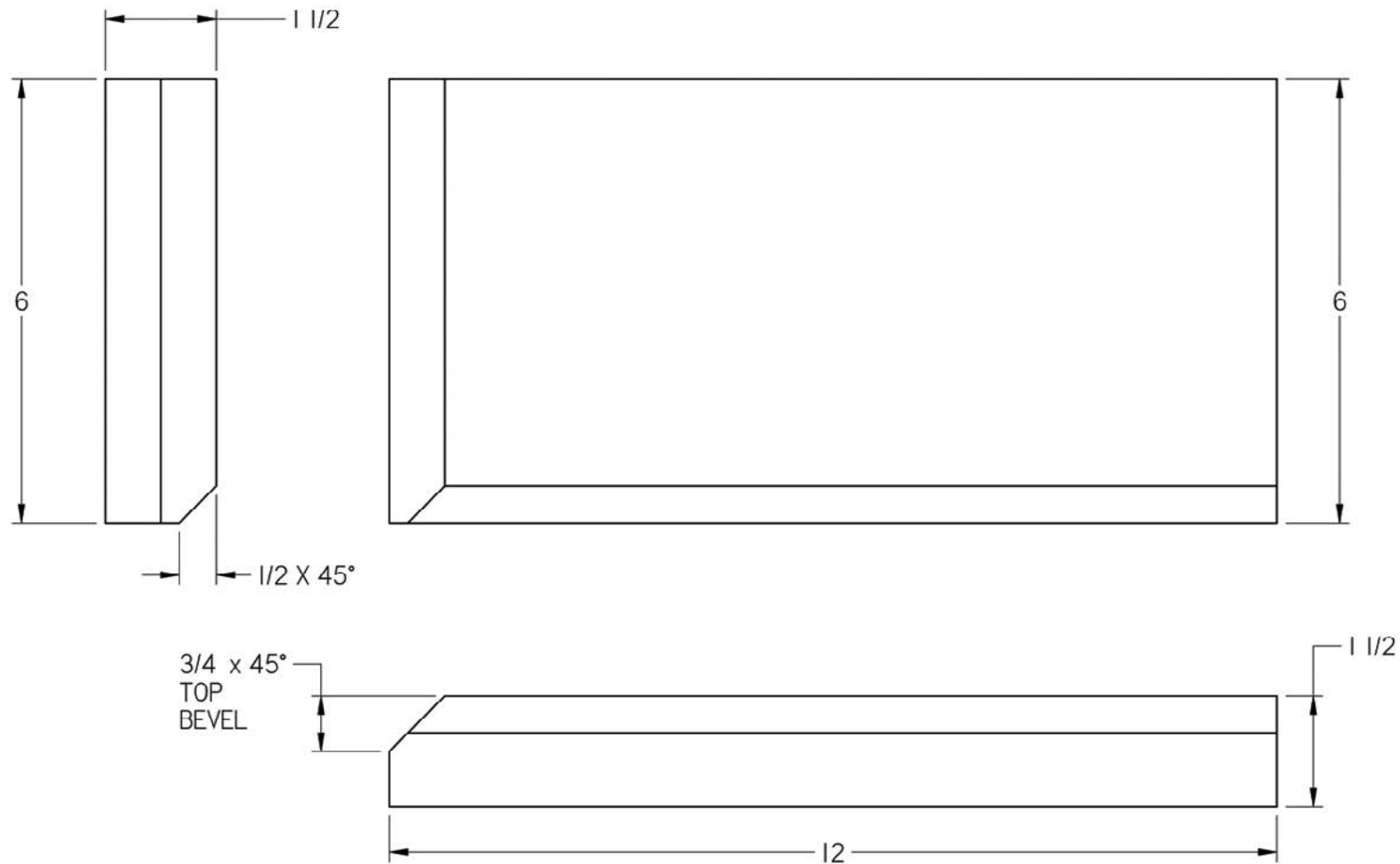


GHR Unit Stop Left Side

Weight: 29.681 LBM

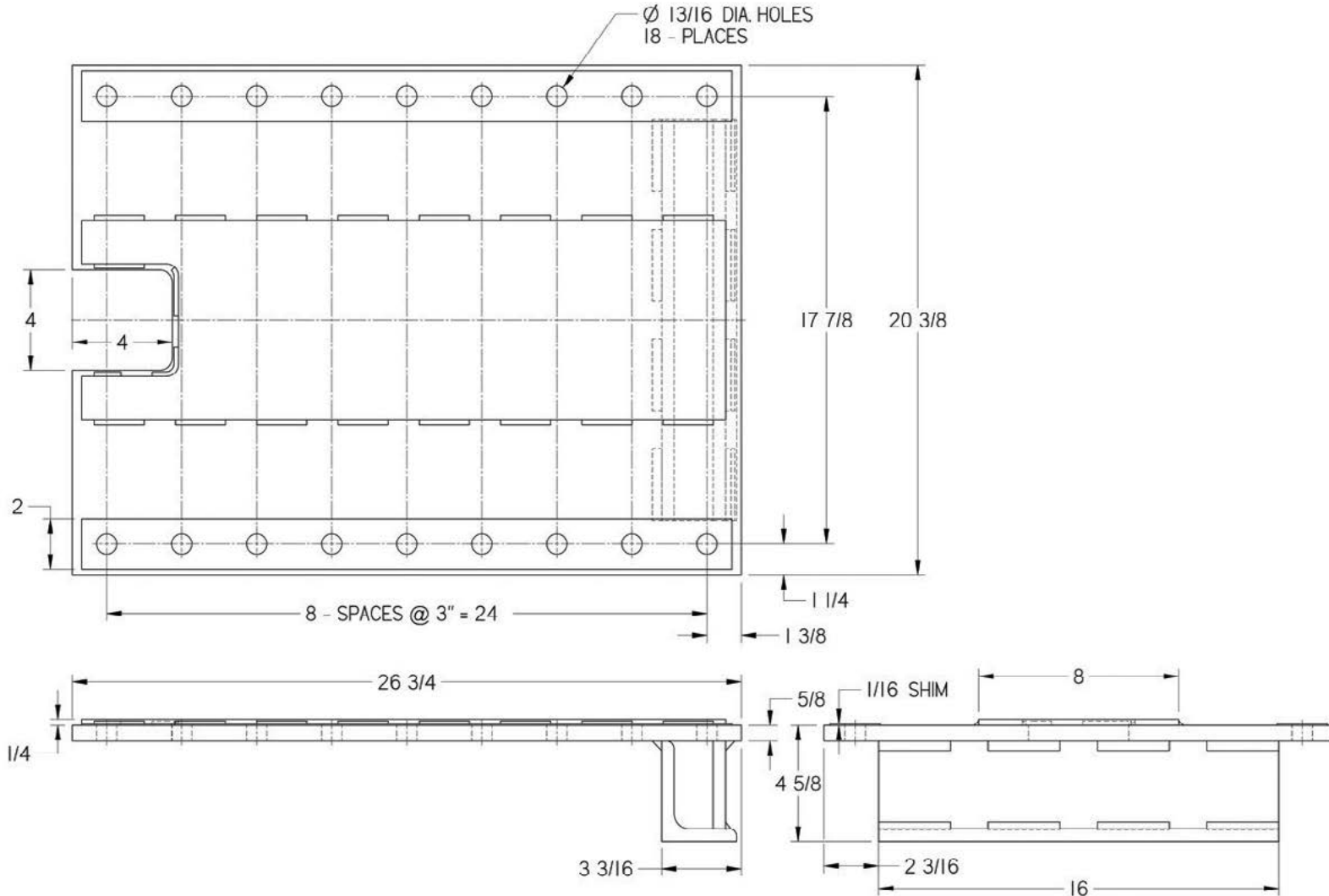
Material: A-572, GR. 50 PLATE STEEL

Stock Code: GHR-1005



10" Yoke Carrier

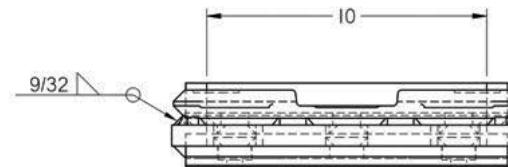
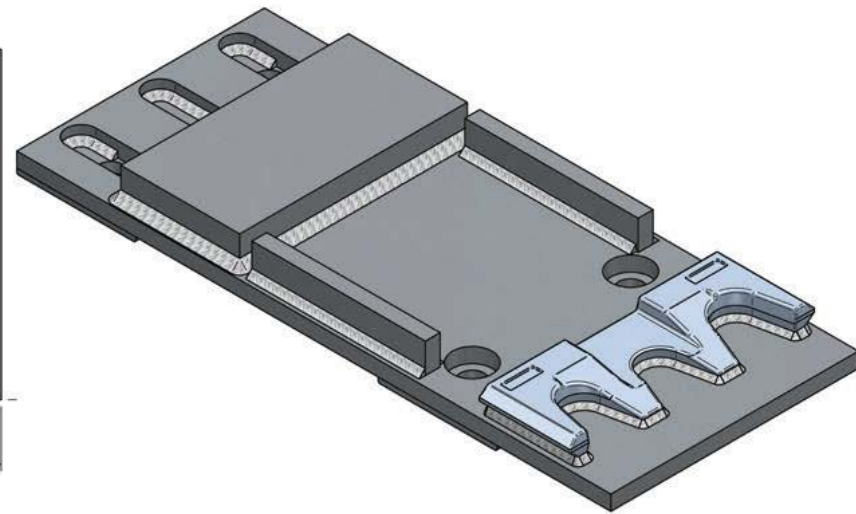
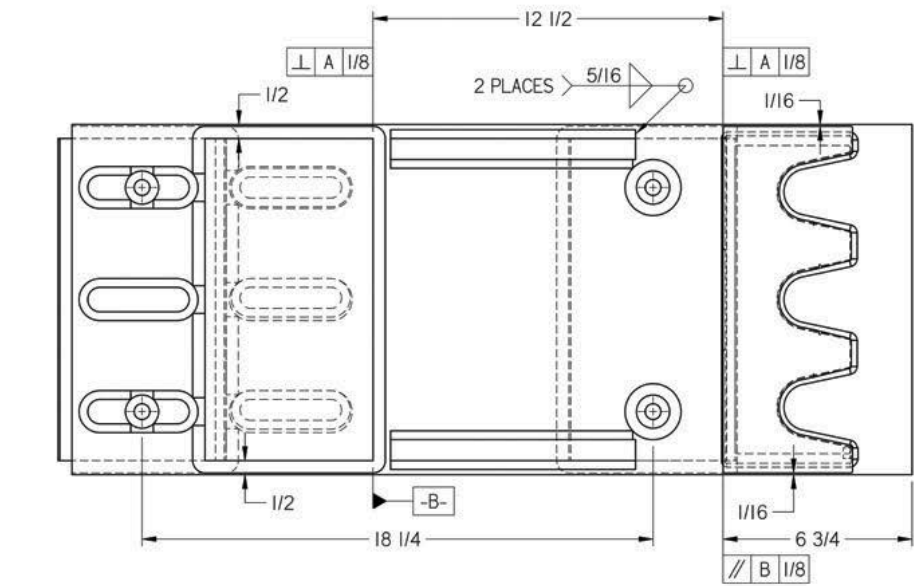
Weight: 128.905 LBM
Stock Code: SC-3317



Sill Adaptor

Weight: 143.985 LBM

Stock Code: 10446

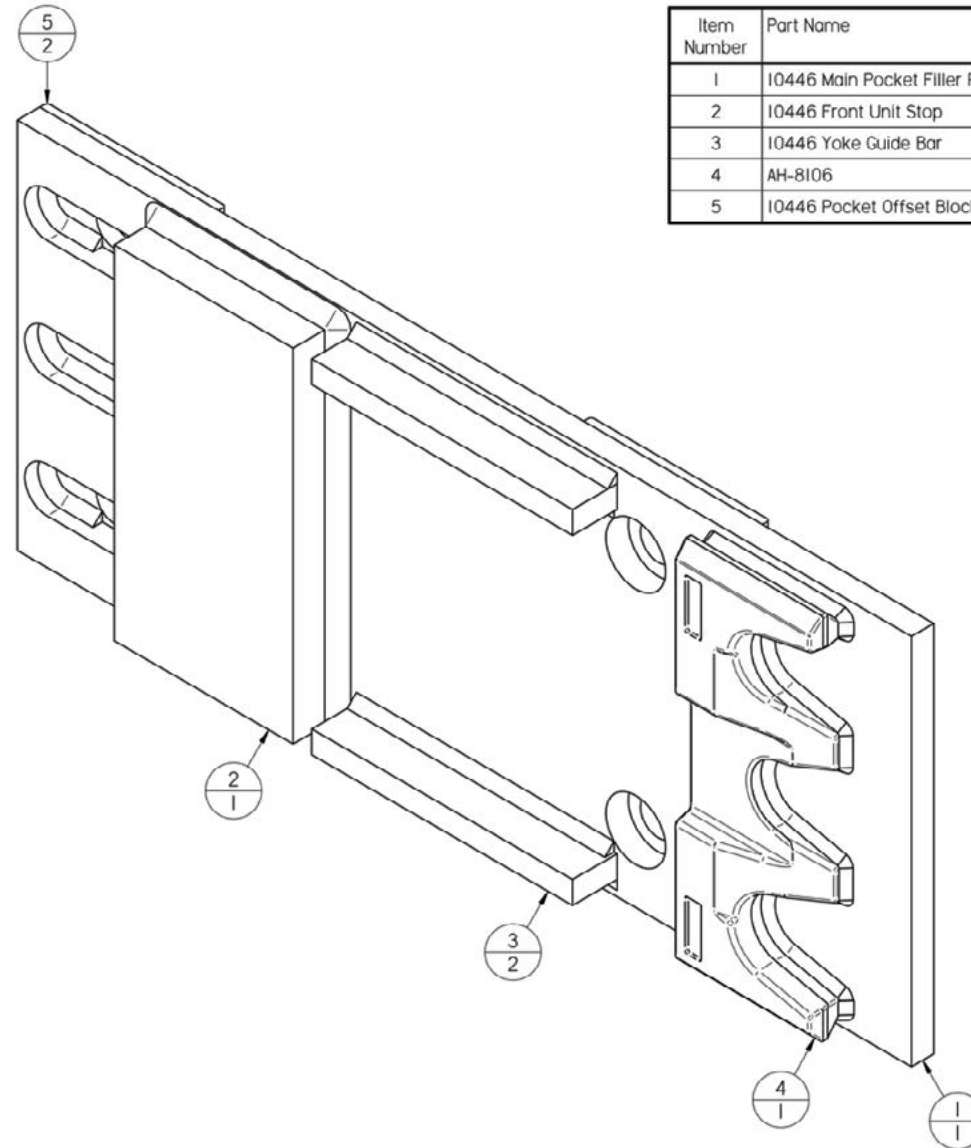


10446 Sill Adaptor Parts List

Weight: 3.172 LBM

Material: ASTM A576 GRADE C 1030 STEEL

Part #: 90004397

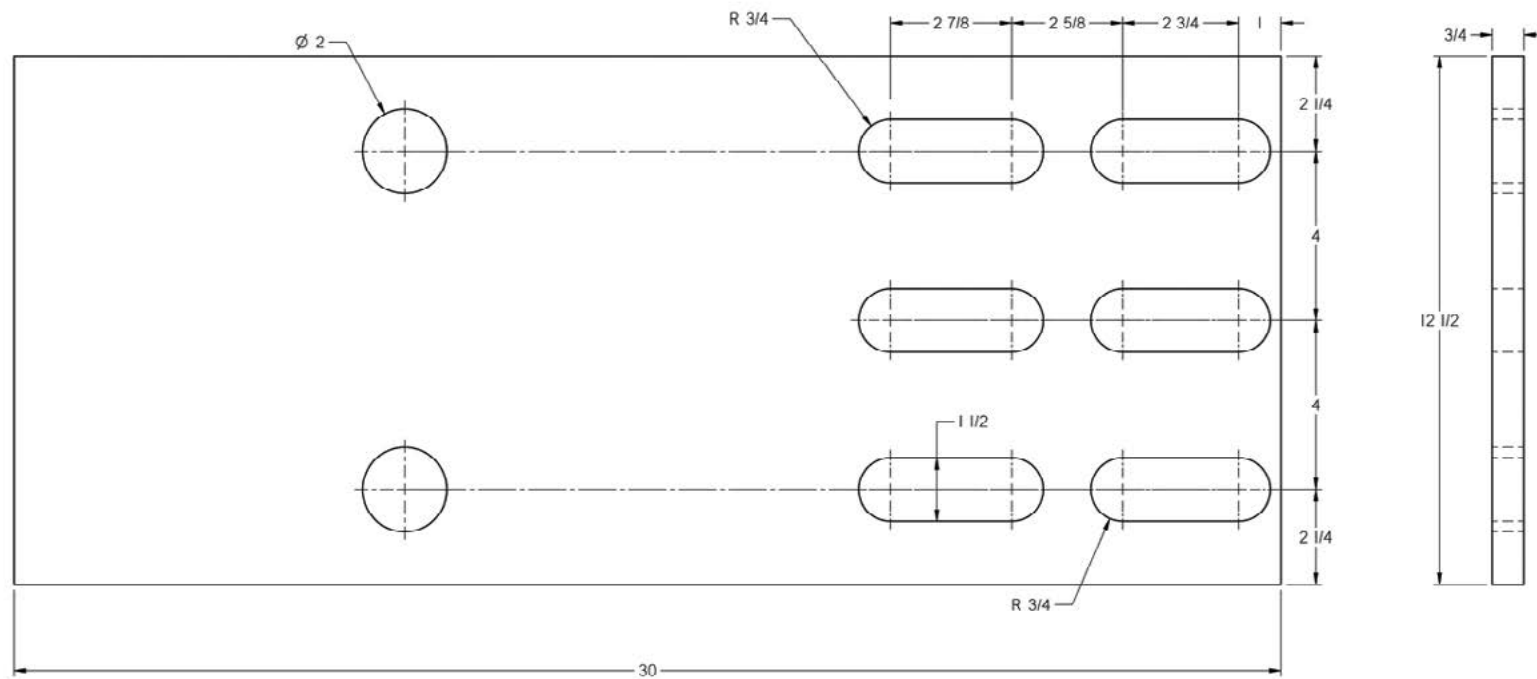


Item Number	Part Name	Quantity
1	I0446 Main Pocket Filler Plate	1
2	I0446 Front Unit Stop	1
3	I0446 Yoke Guide Bar	2
4	AH-8106	1
5	I0446 Pocket Offset Blocks	2

10446 Main Pocket Filler Plate

Weight: 70.633 LBM

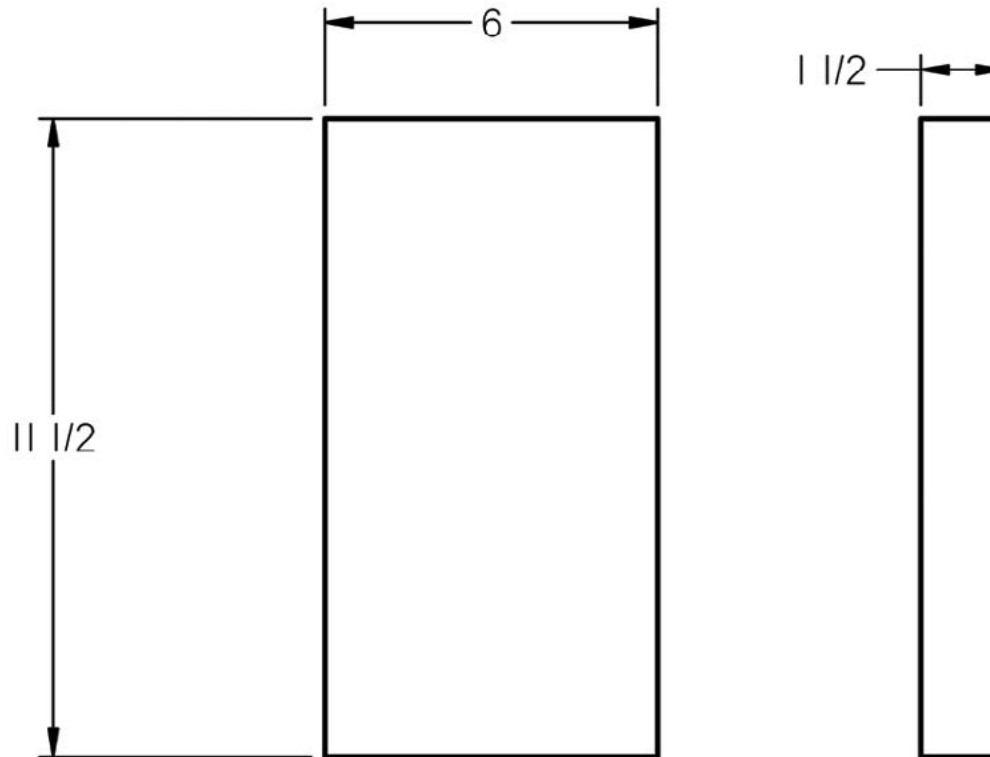
Material: STEEL, GRADE 50 PLATE



10446 Front Unit Stop

Weight: 29.289 LBM

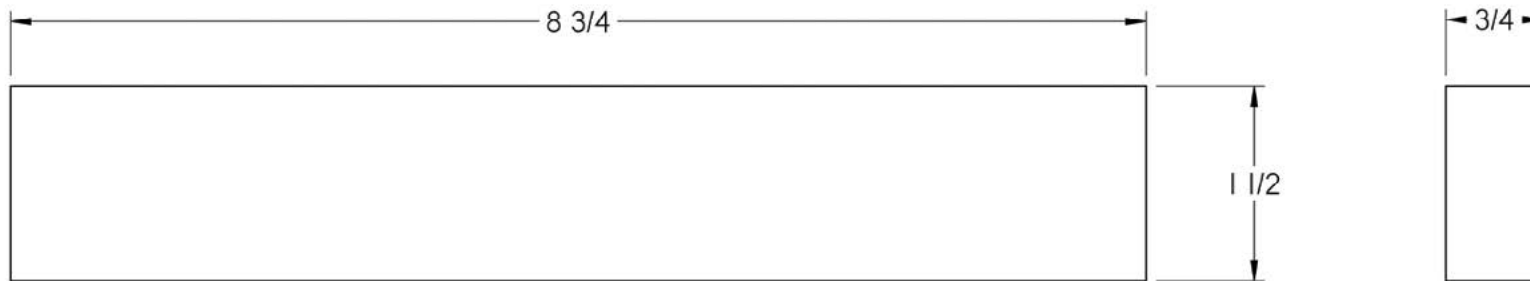
Material: STEEL, GRADE 50 PLATE



10446 Yoke Guide Bar

Weight: 2.786 LBM

Material: STEEL, GRADE 50 PLATE



Front Draft Lug Forged

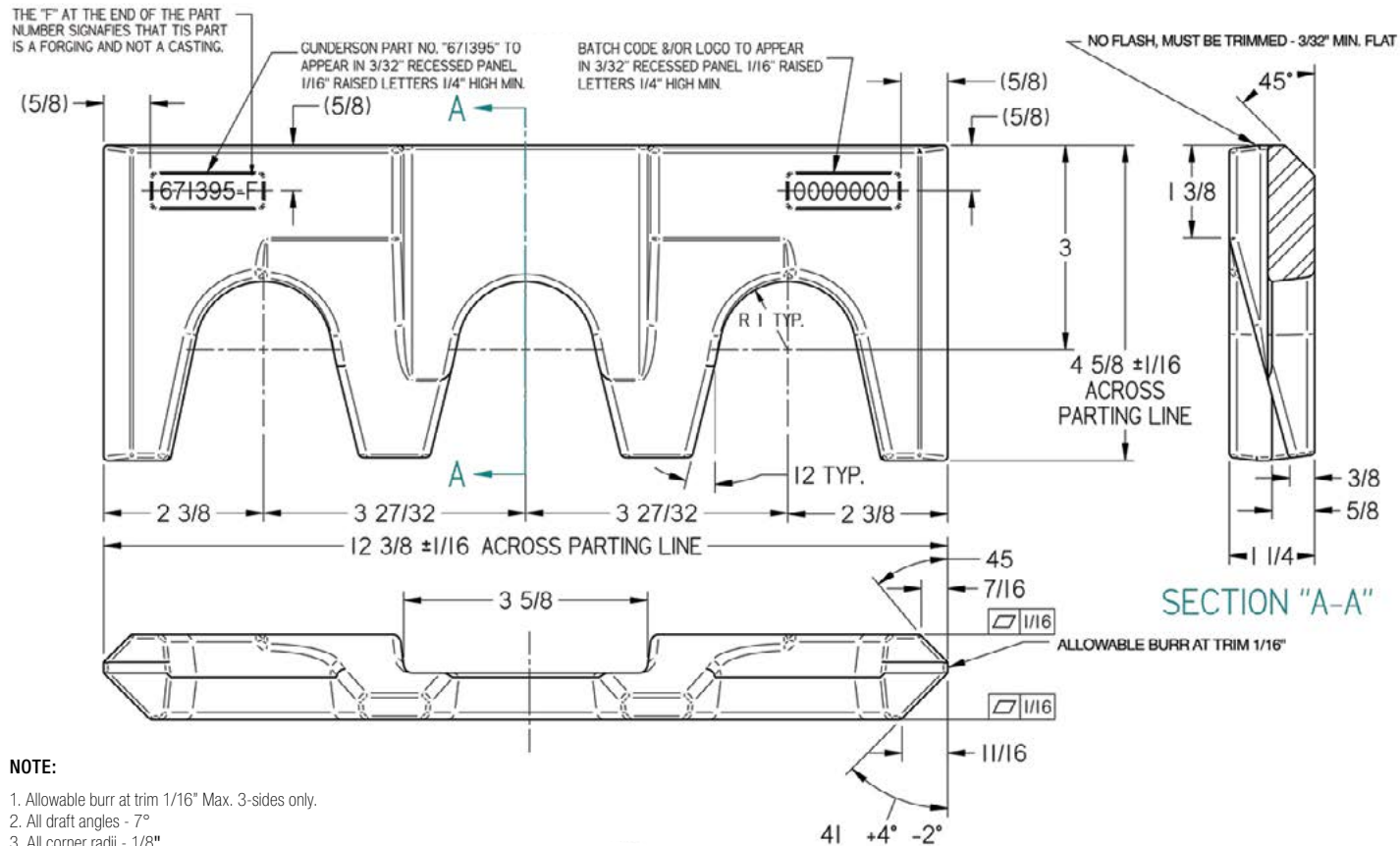
Weight: 10.383 LBM

Material: ASTM A576, AISI 1035 QT, 50 KSI MIN. YIELD, 170-220 BNH, 20% MIN. ELONGATION

Stock Code: AH8106

NOTE:

The recessed panels can be orientated either horizontal or vertical and sized to accommodate the required info and is the manufactures choice for best fit on the forging die layout to accommodate the required information in the space allowed.



NOTE:

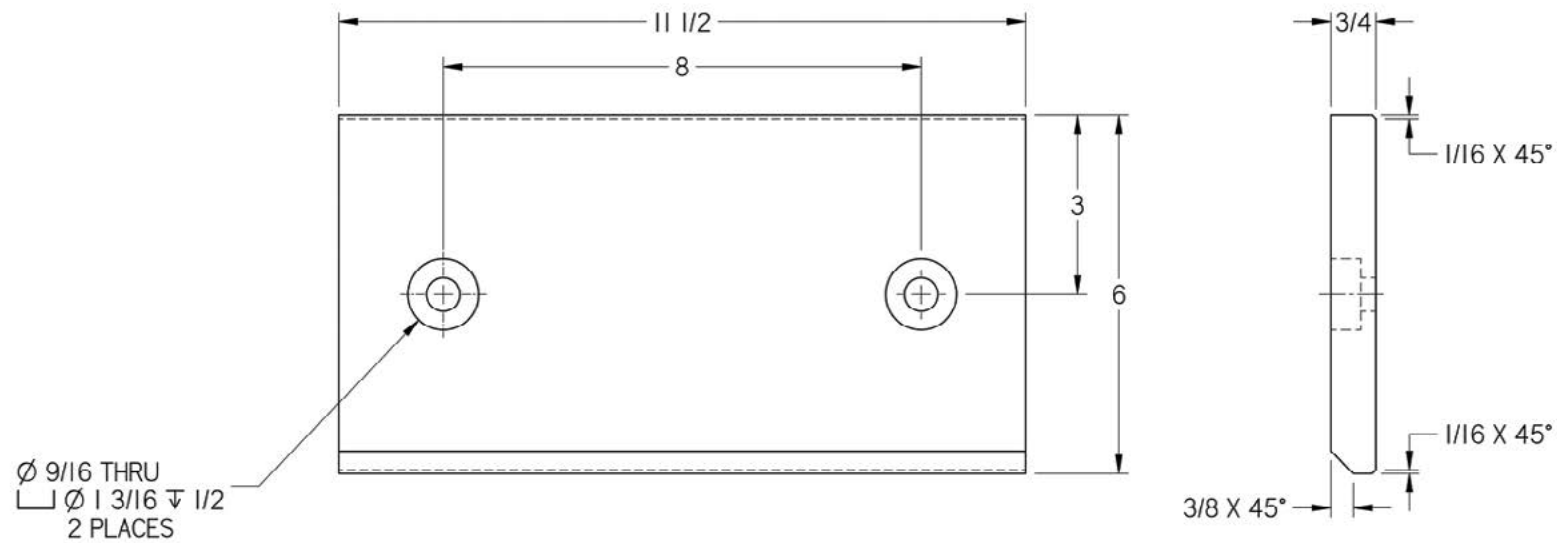
1. Allowable burr at trim 1/16" Max. 3-sides only.
2. All draft angles - 7°
3. All corner radii - 1/8"
4. All fillet radii - 1/8"

Tolerances: unless otherwise specified
All dimensions ±1/16"
All draft angles +2°-1°

10446 Pocket Offset Blocks

Weight: 14.054 LBM

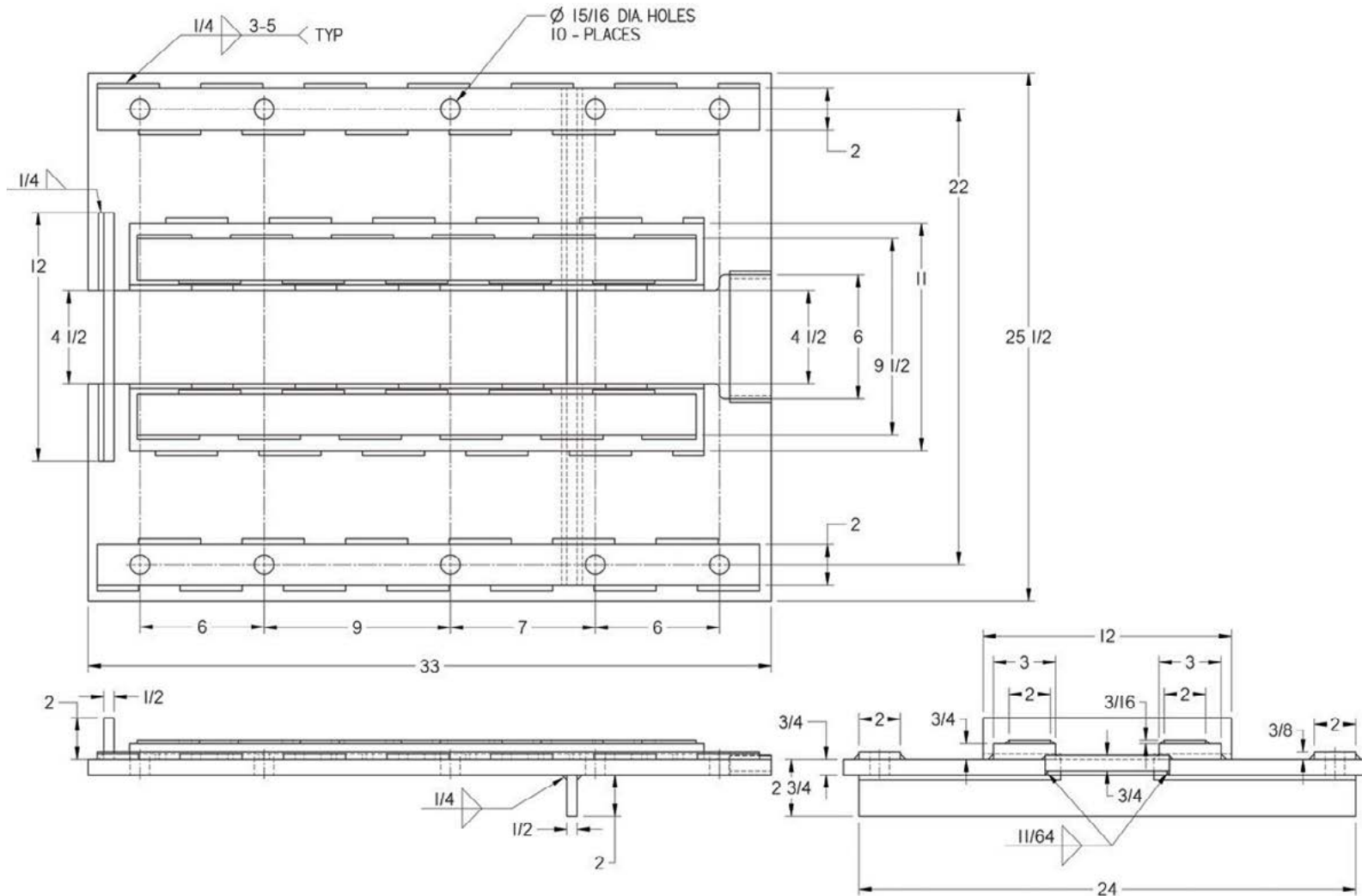
Material: STEEL, GRADE 50 PLATE



AO Smith to 10G Carrier ASSY

Weight: 211.474 LBM

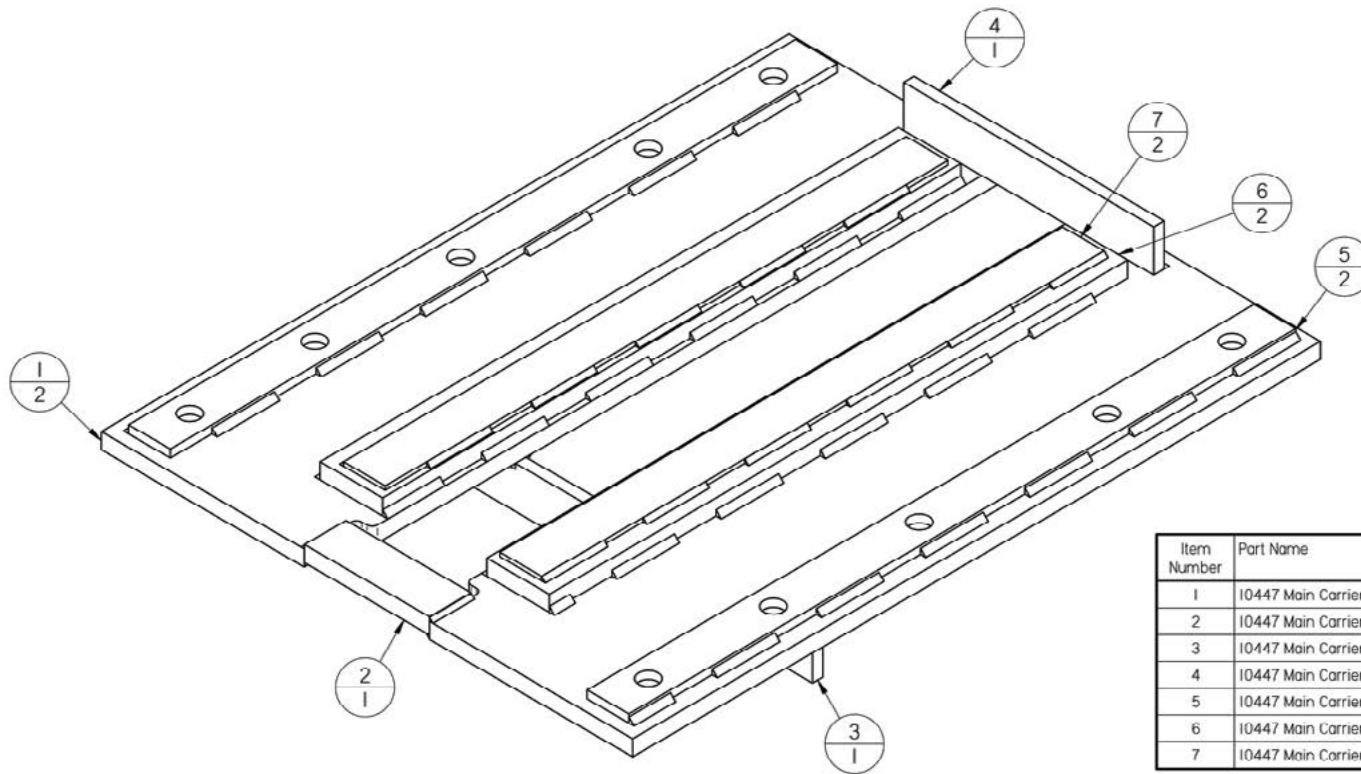
Stock Code: SC-10447 CARRIER ASSY



10447 Carrier ASSY Parts List

Weight: 211.474 LBM

Stock Code: 10447

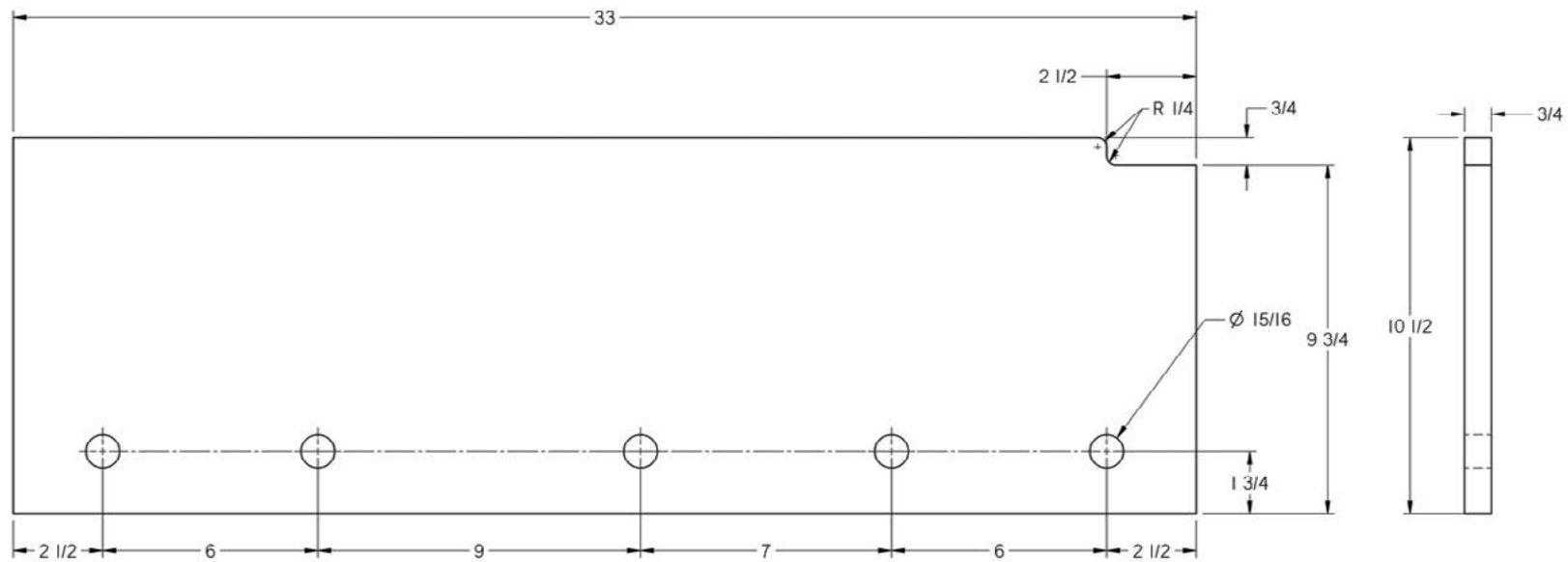


Item Number	Part Name	Quantity
1	10447 Main Carrier Pate Sides	2
2	10447 Main Carrier Front Unit Support Bar	1
3	10447 Main Carrier Stiffner Bar	1
4	10447 Main Carrier Front Top Stiffner Bar	1
5	10447 Main Carrier Sill Shim Bar	2
6	10447 Main Carrier WP Shim Bar	2
7	10447 Main Carrier WP	2

10447 Main Carrier Plate Sides

Weight: 72.410 LBM

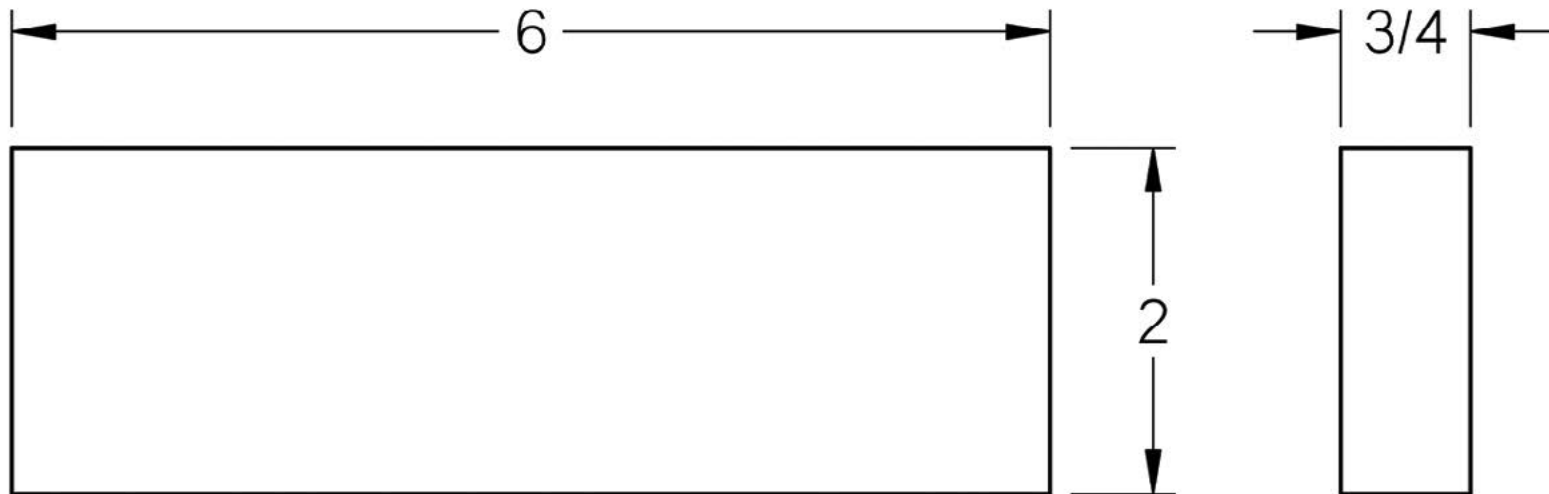
Material: STEEL, GRADE 50 PLATE



10447 Main Carrier Front Unit Support Bar

Weight: 2.547 LBM

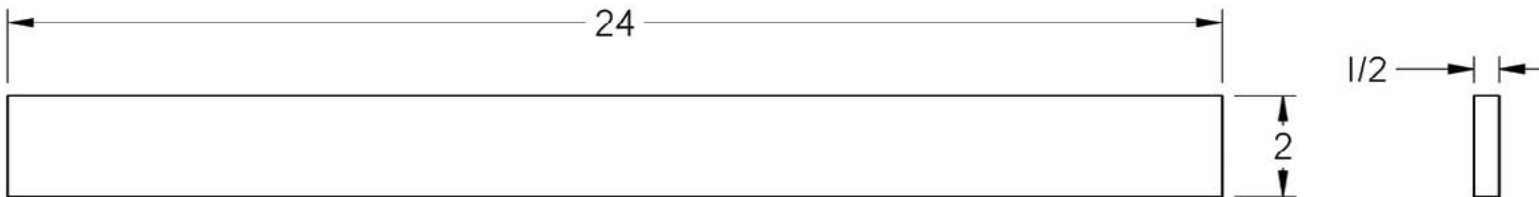
Material: STEEL, GRADE 50 PLATE



10447 Main Carrier Stiffener Bar

Weight: 6.792 LBM

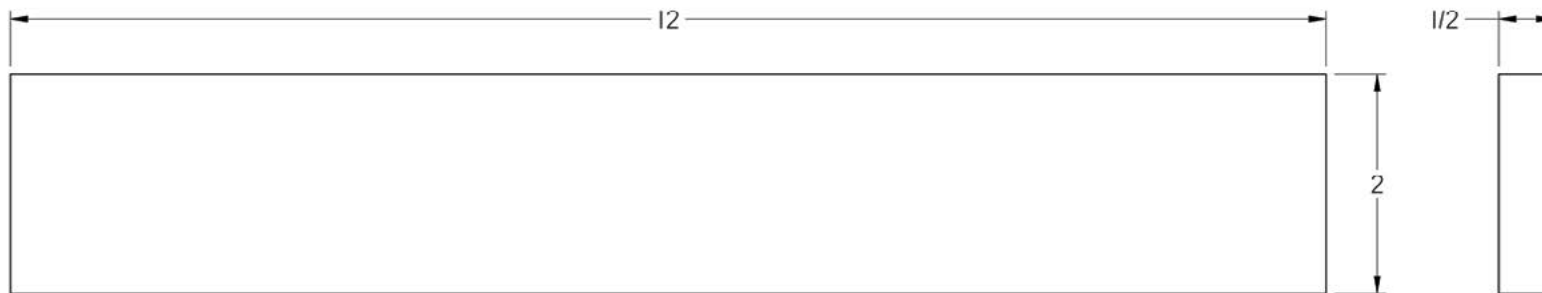
Material: STEEL, GRADE 50 PLATE



10447 Main Carrier Front Top Stiffener Bar

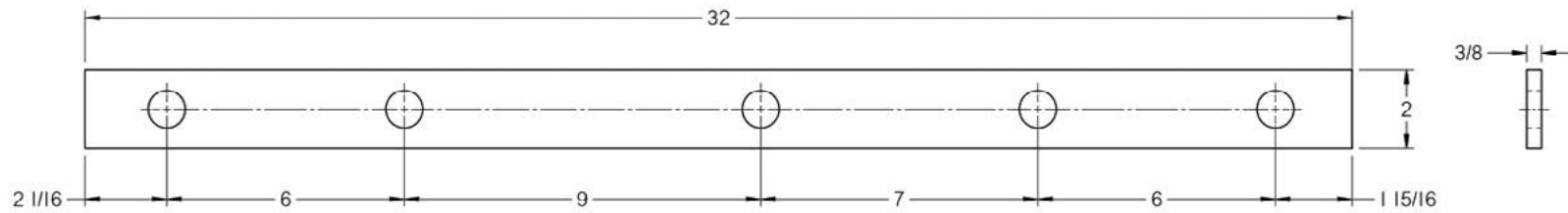
Weight: 3.396 LBM

Material: STEEL, GRADE 50 PLATE



10447 Main Carrier Sill Shim Bar

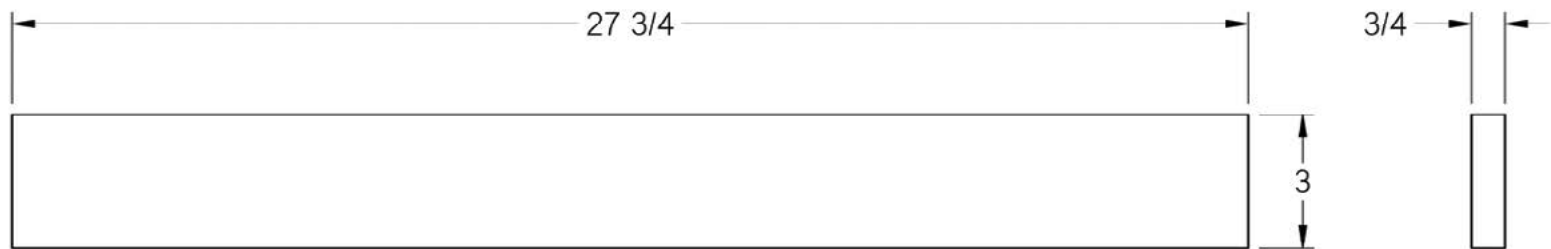
Weight: 6.425 LBM
Material: STEEL, A36



10447 Main Carrier WP Shim Bar

Weight: 17.669 LBM

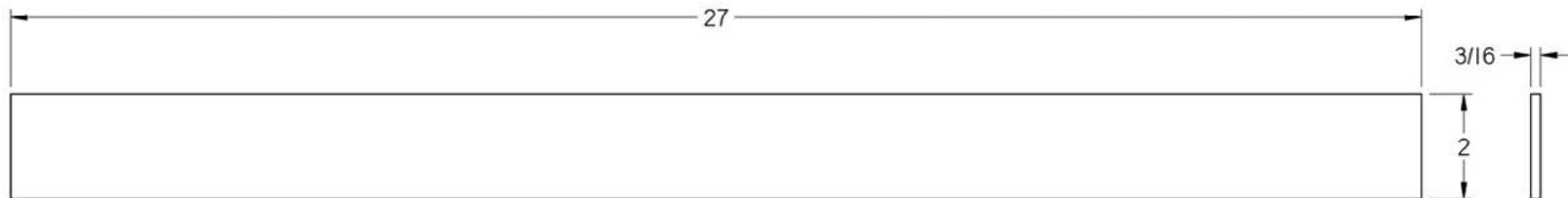
Material: STEEL, GRADE 50 PLATE



10447 Main Carrier WP

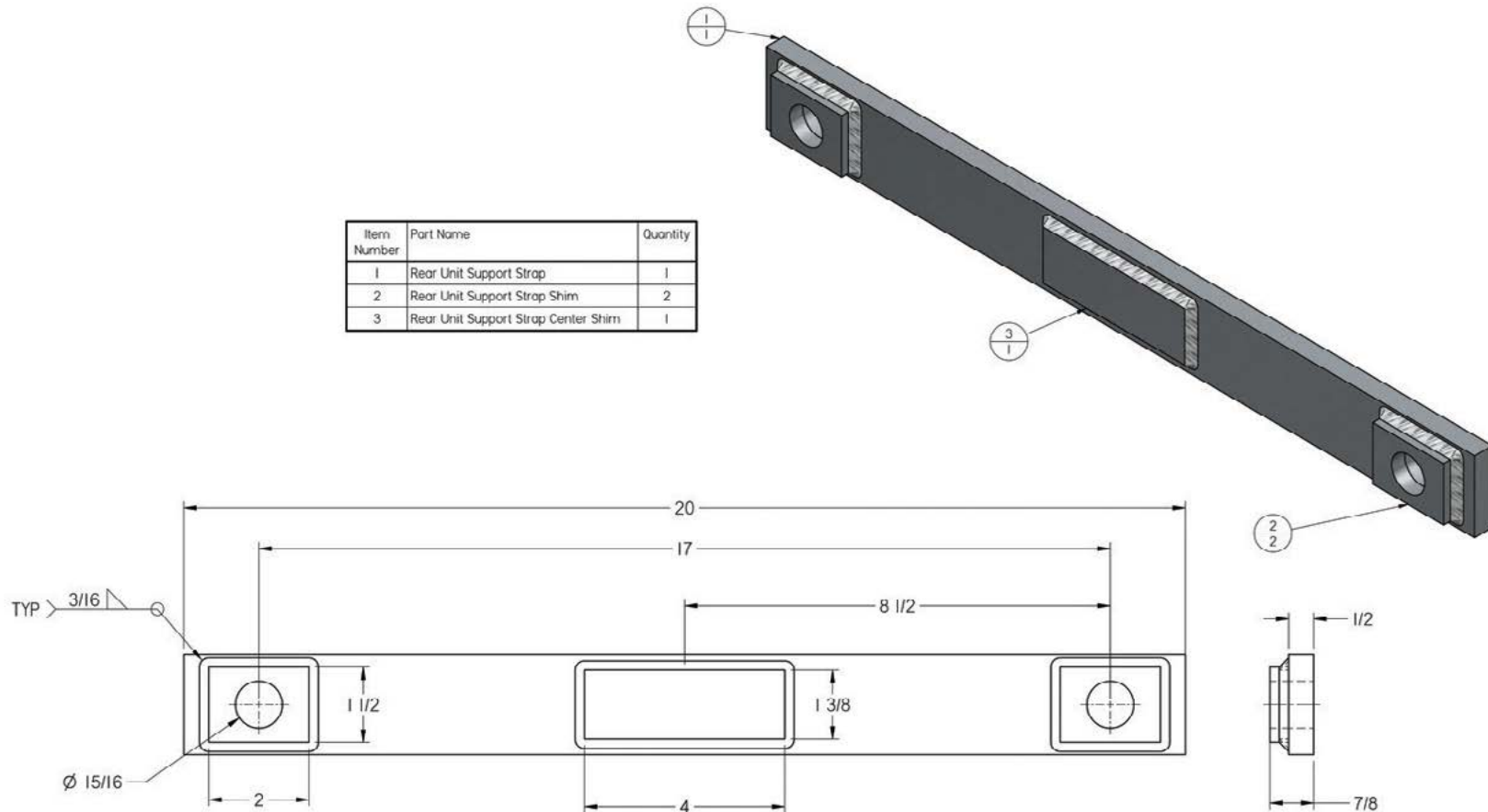
Weight: 2.865 LBM

Material: AR 300 MIN. STEEL



10448 Rear Unit Support Strap

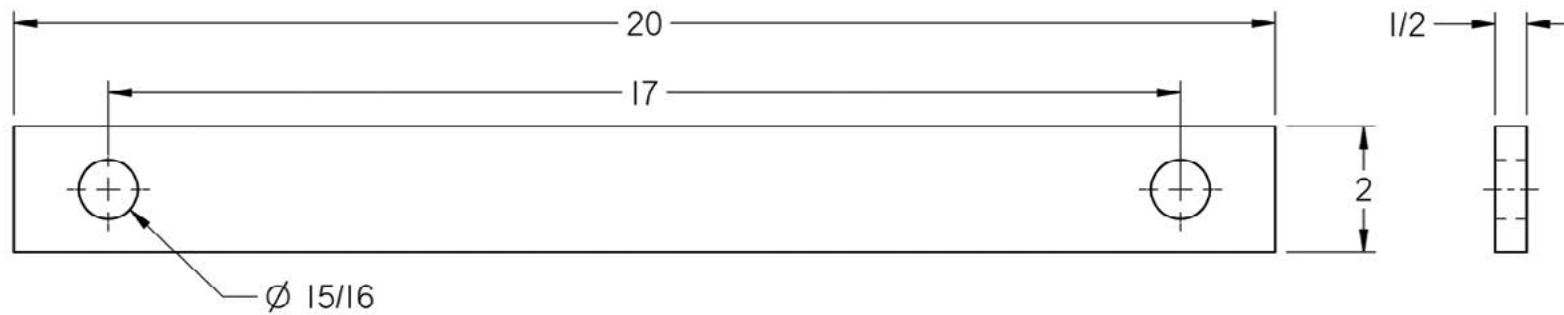
Item Number	Part Name	Quantity
1	Rear Unit Support Strap	1
2	Rear Unit Support Strap Shim	2
3	Rear Unit Support Strap Center Shim	1



Rear Unit Support Strap

Weight: 5.464 LBM

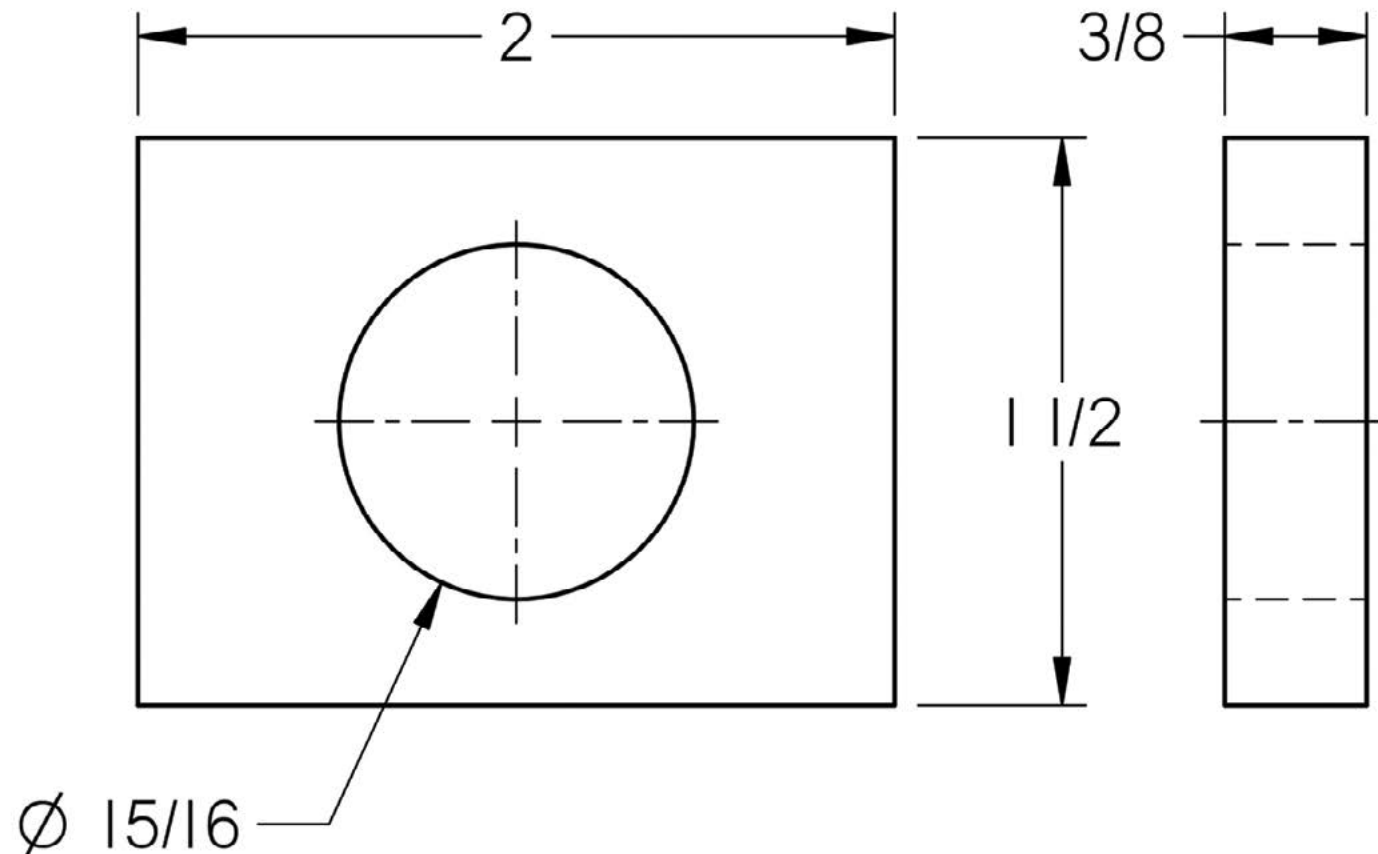
Material: STEEL, GRADE 50 PLATE



Rear Unit Support Strap Center Shim

Weight: 0.245 LBM

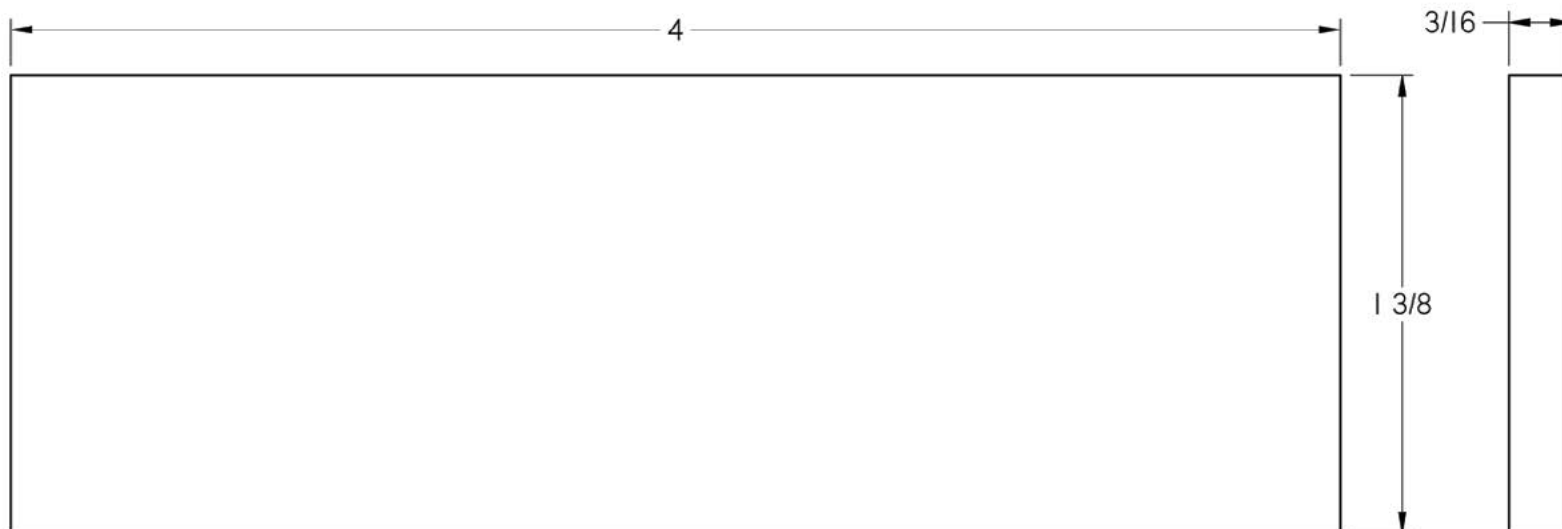
Material: STEEL, GRADE 50 PLATE



Rear Unit Support Strap Center Shim

Weight: 0.292 LBM

Material: STEEL, GRADE 50 PLATE

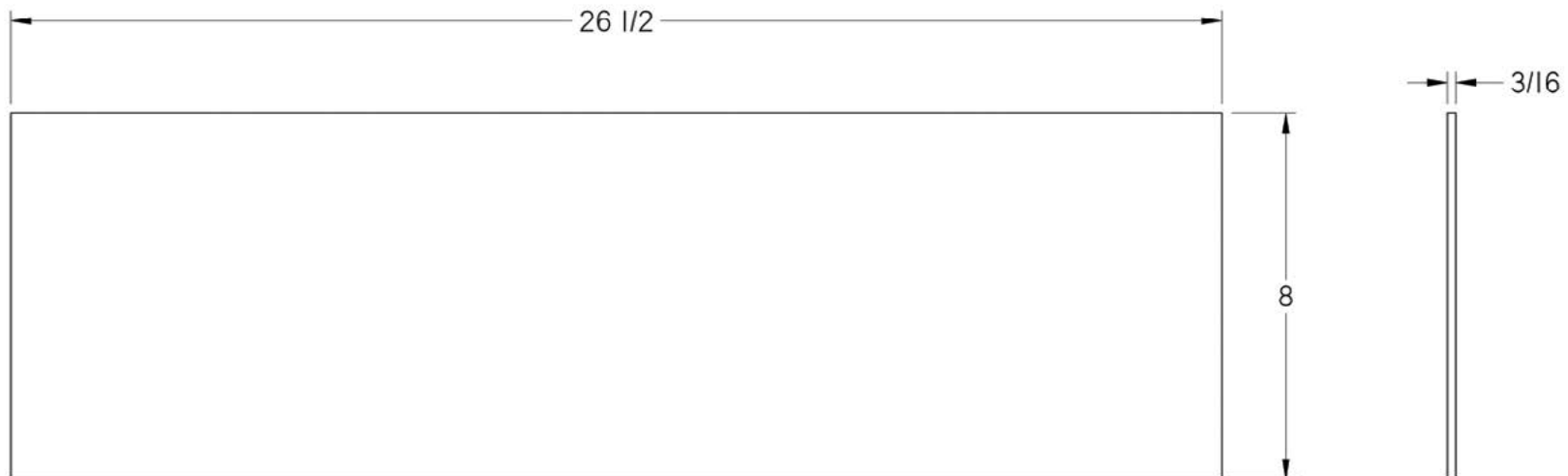


A0 F12-2 to 10G Top Sill WP

Weight: 11.249 LBM

Material: AR 300 MIN. STEEL

Stock Code: 6459

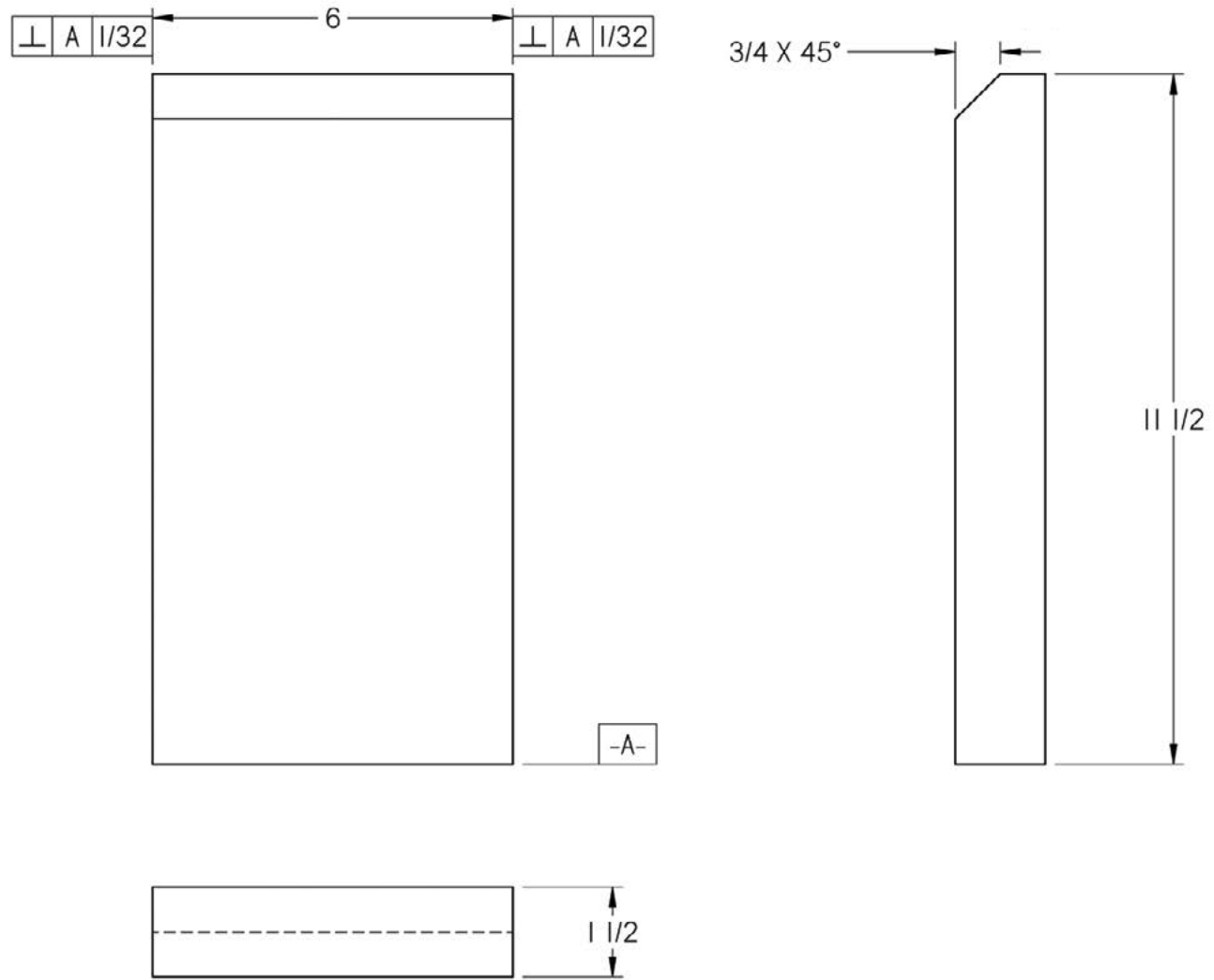


10-15 G Unit Stop

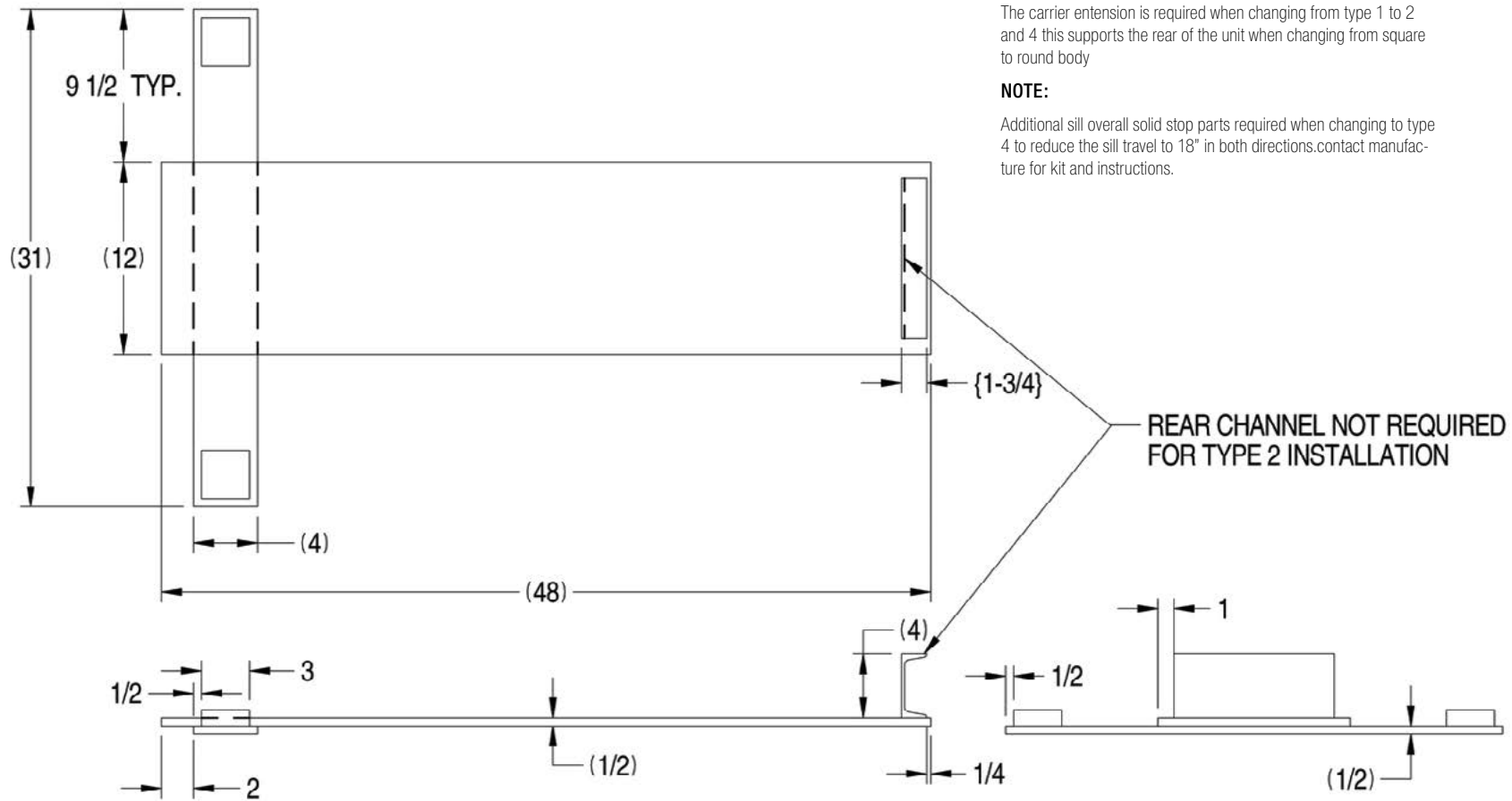
Weight: 28.811 LBM

Material: A-572, GR. 50 PLATE STEEL

Stock Code: AH8053



COC-2 Pocket, Carrier Extension

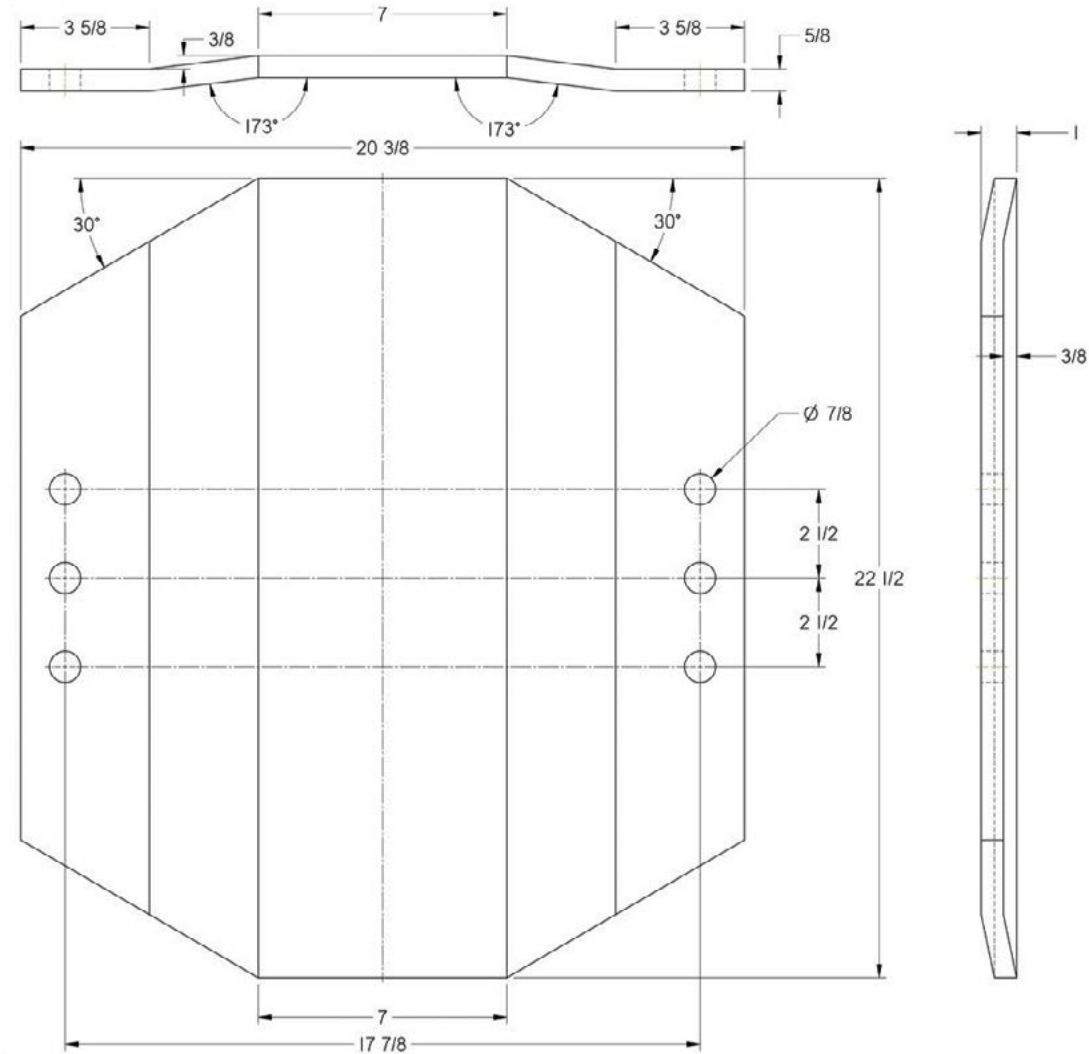


E-325G Yoke Support Plate

Weight: 71.277 LBM

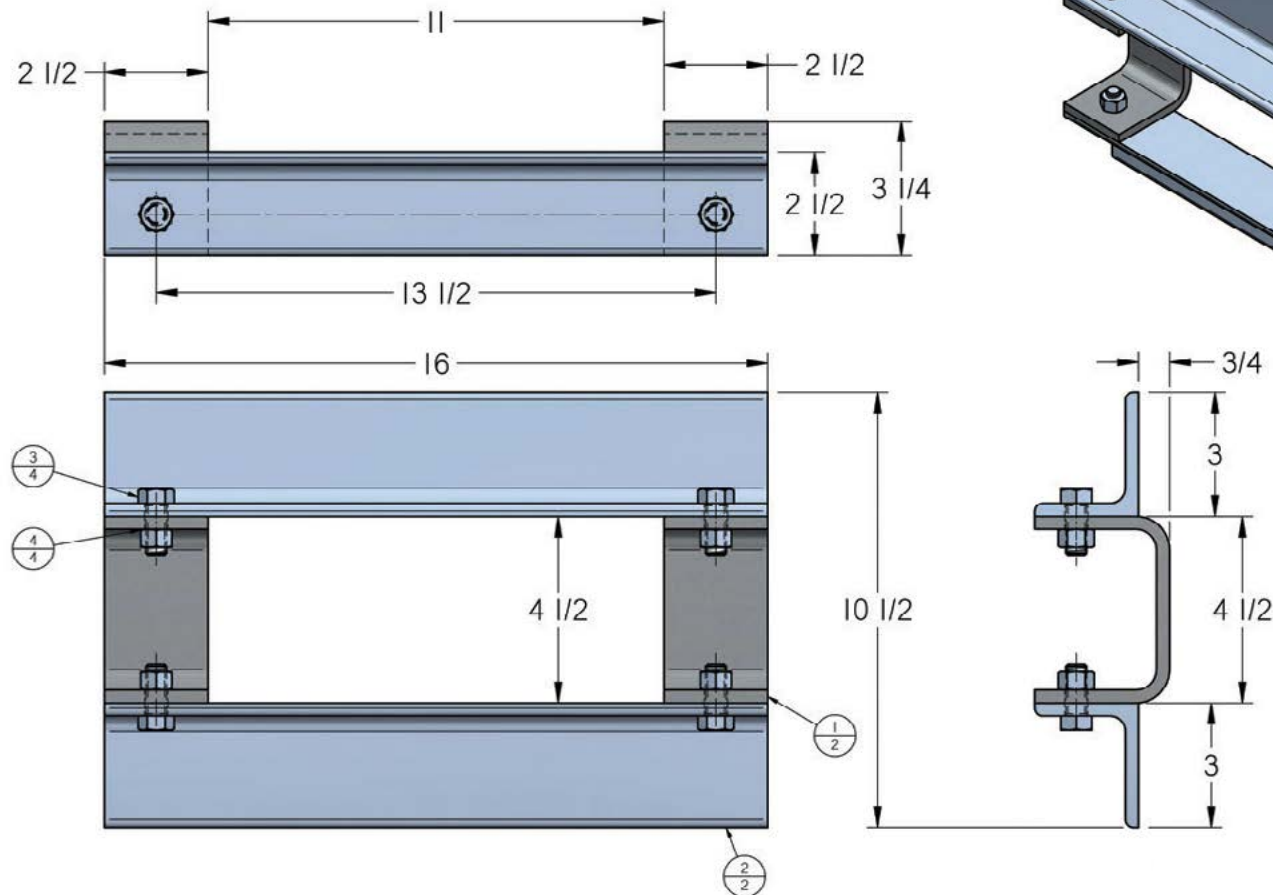
Material: GRADE 50, STEEL PLATE

Stock Code: SD-20120



Assembly – Draft Key Retainer

Weight: 19.618 LBM
Stock Code: 23113851

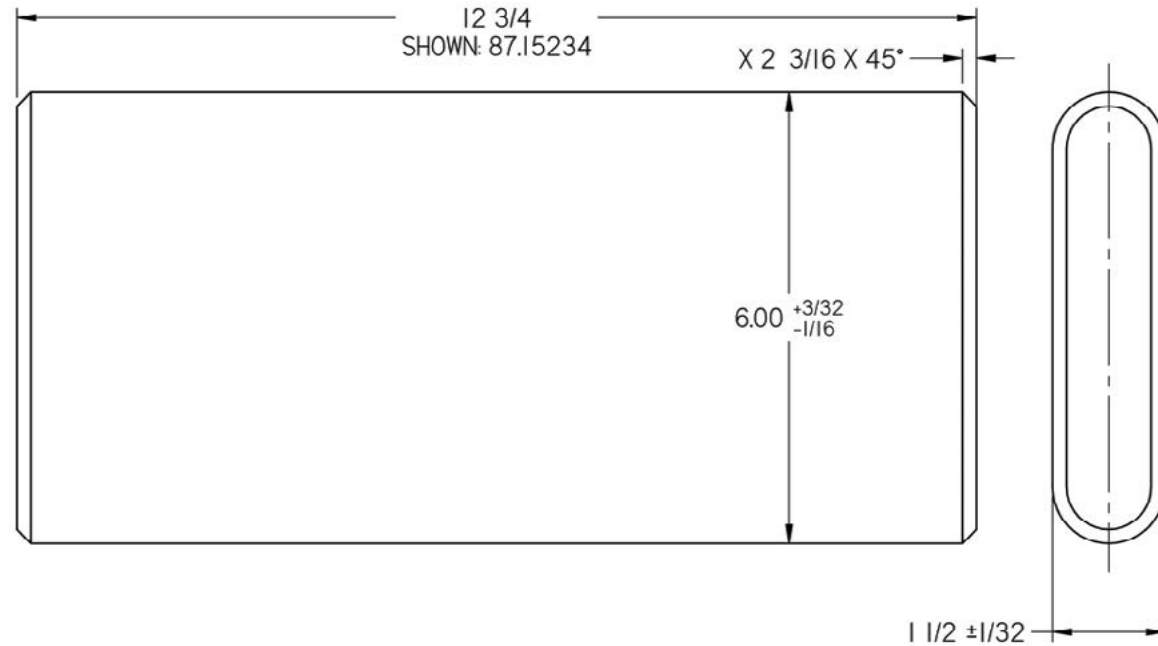


FMI Key Stock Chart

Weight: 30.598 LBM

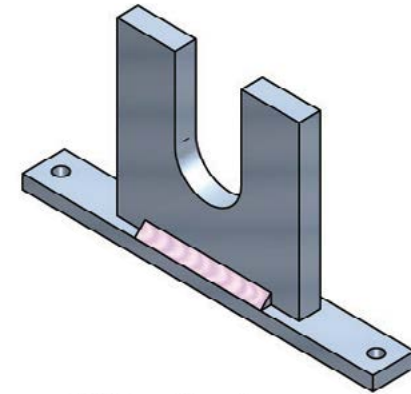
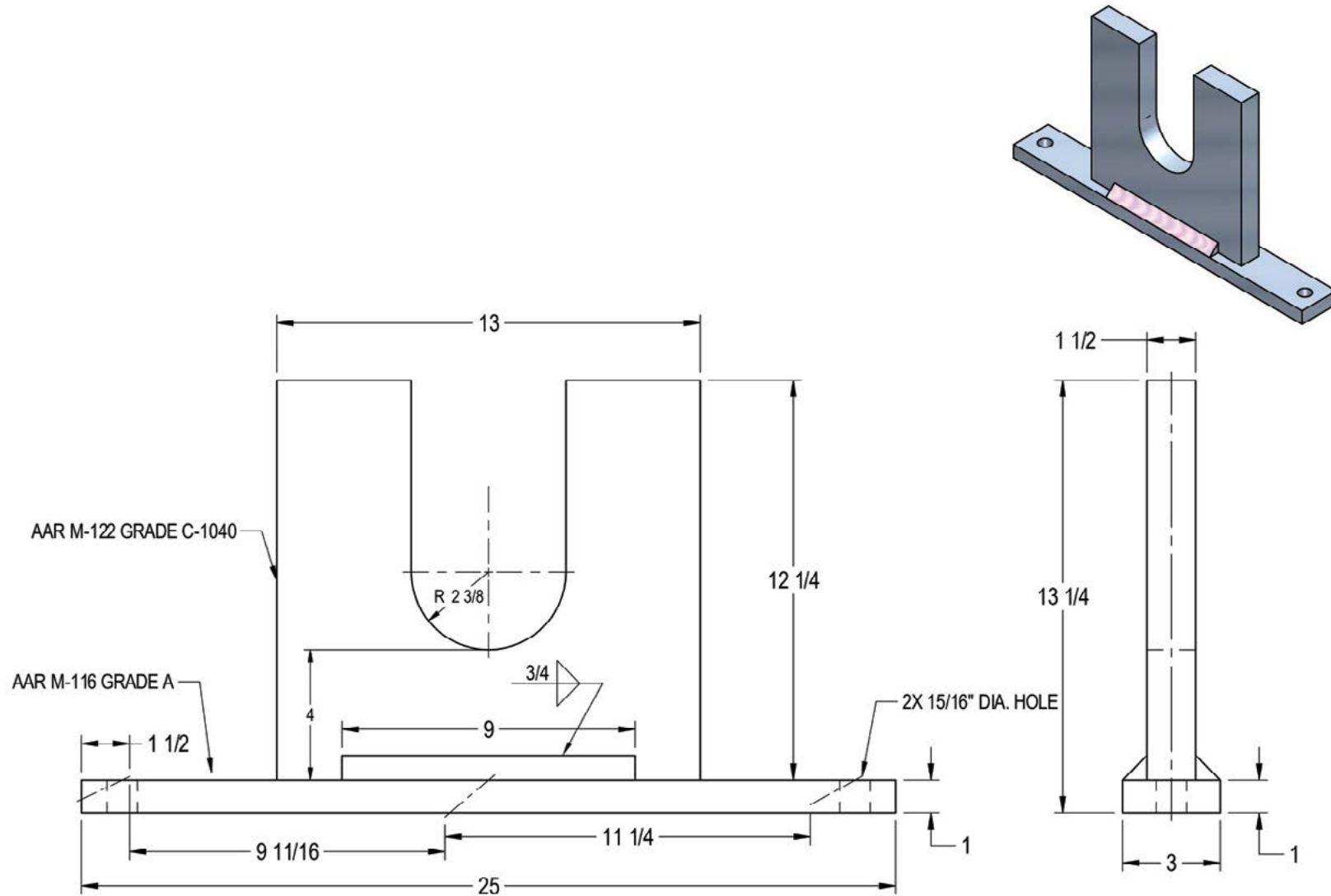
Material: STEEL, C1050 HR

KEY TABLE		
KEY PART NO.	REV.	Length
86.80242	B	11 1/2
87.13357	A	17 5/8
87.13427	A	18 1/2
87.13568	C	21
87.13887	A	17
87.13930	A	18 3/4
87.13971	A	19 3/4
87.15132	E	17 1/2
87.15234	C	12 3/4
87.15483	A	18 1/4
87.15856	A	26
87.15857	A	18 1/2
87.18012	A	26
87.18172	A	16 7/8
87.18541	A	16 3/4
87.18568	A	18
87.18714	A	17 3/4
87.18828	A	27
87.18841	A	20 1/4
87.18947	A	22 1/2
87.18949	A	17 1/4
87.19941	A	17 3/8
87.19942	A	16 1/8
87.19962	A	16 1/2



CUSHIONING UNITS

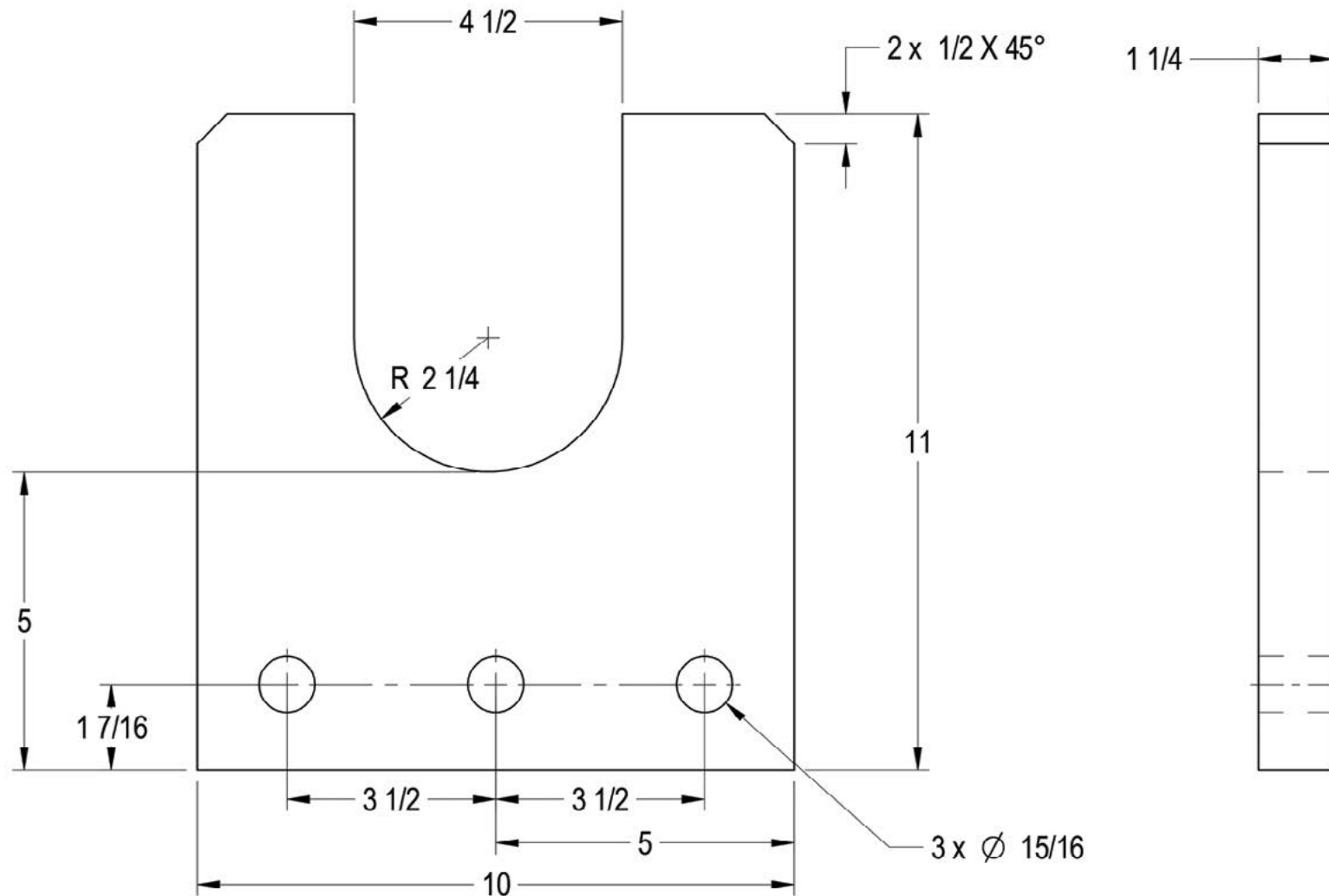
Weight: 72.825 LBM



CUSHIONING UNITS

Weight: 29.307 LBM

Material: GRADE 50 PLATE STEEL

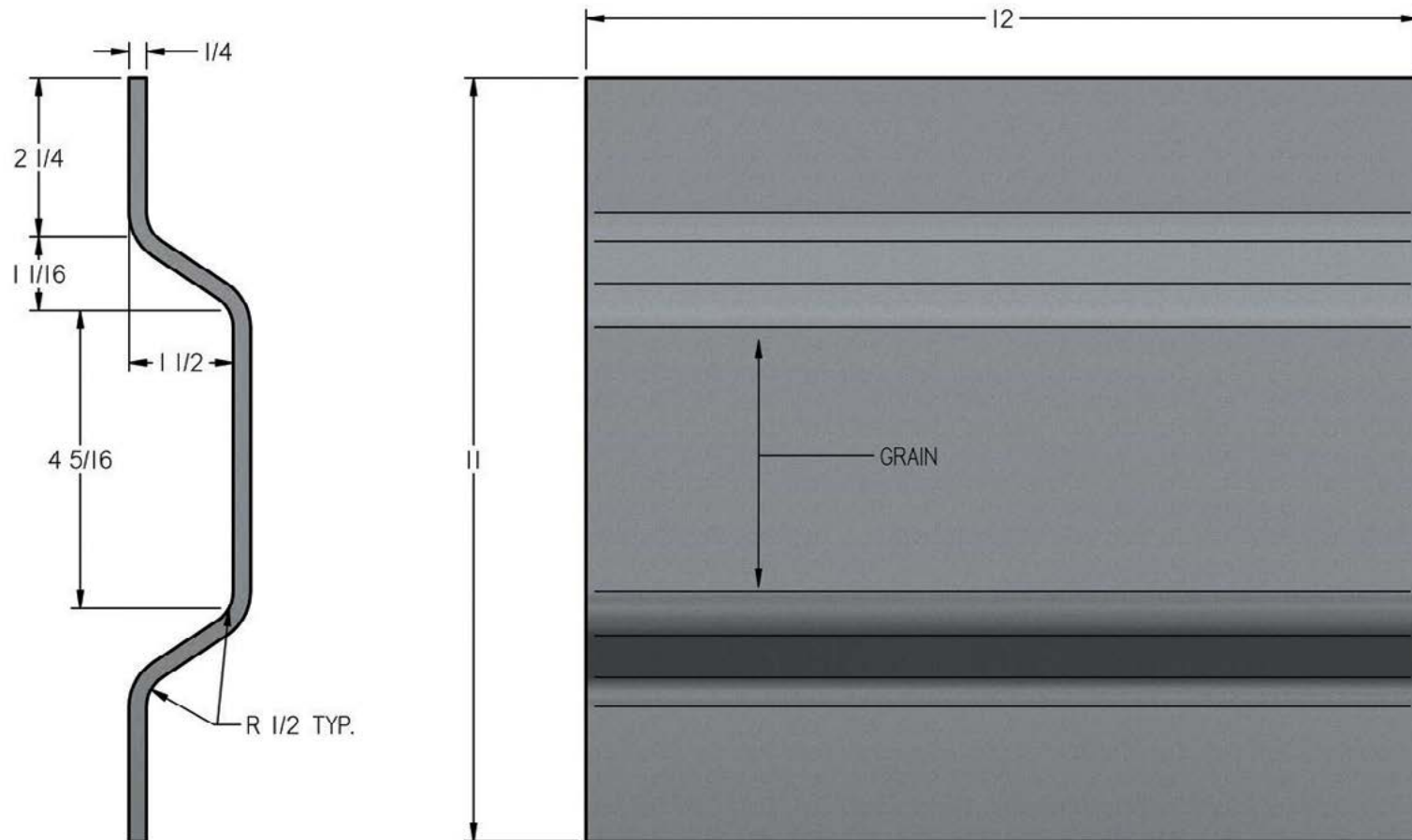


HYD. Draft Key Retainer 10F Gear 1-1/2" Offset

Weight: 10.528 LBM

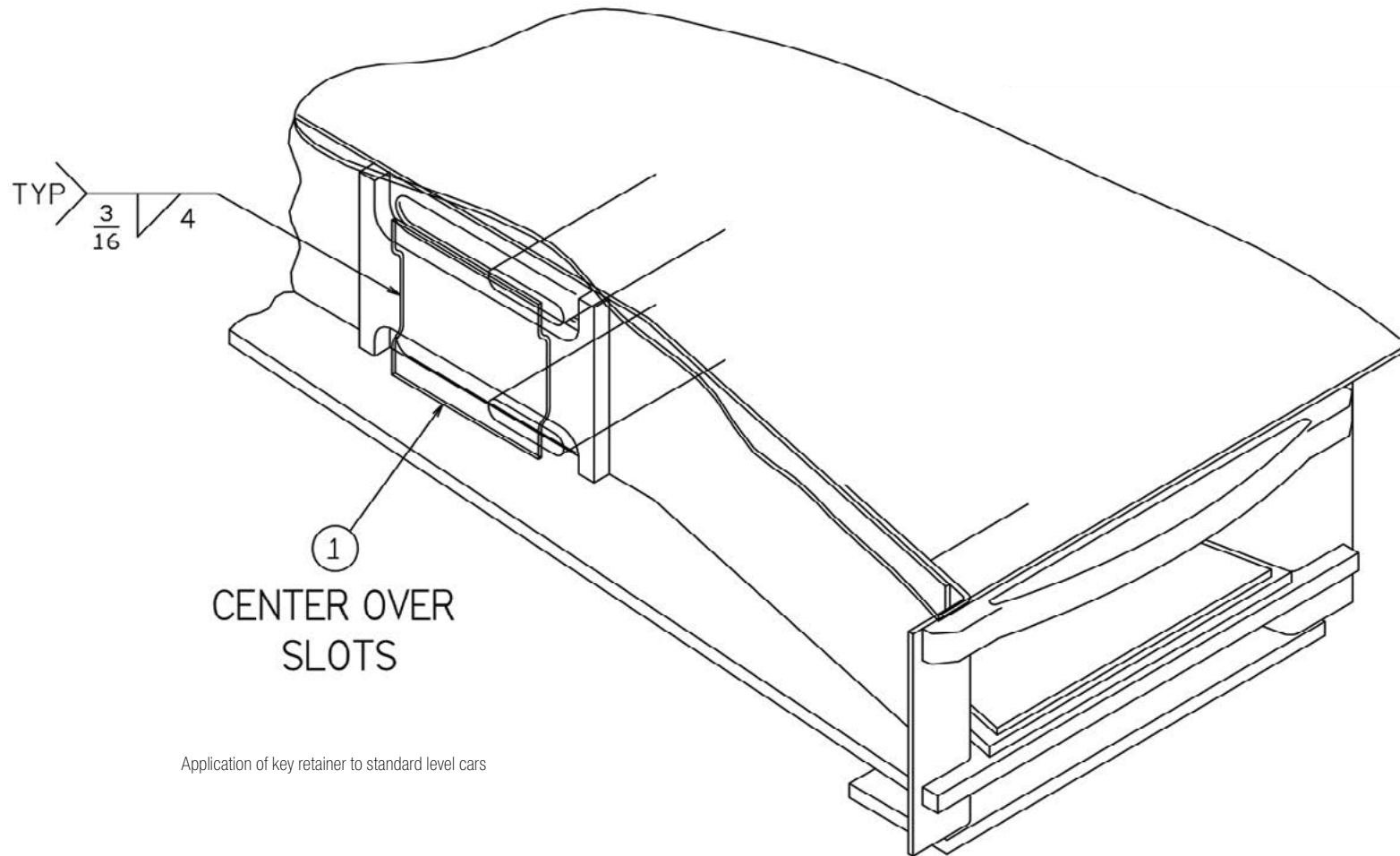
Material: GRADE 50, STEEL PLATE, TYPE 2

Stock Code: 23113811



B-11215, Draft Key Retainer Application

Weight: 12.3 LBM



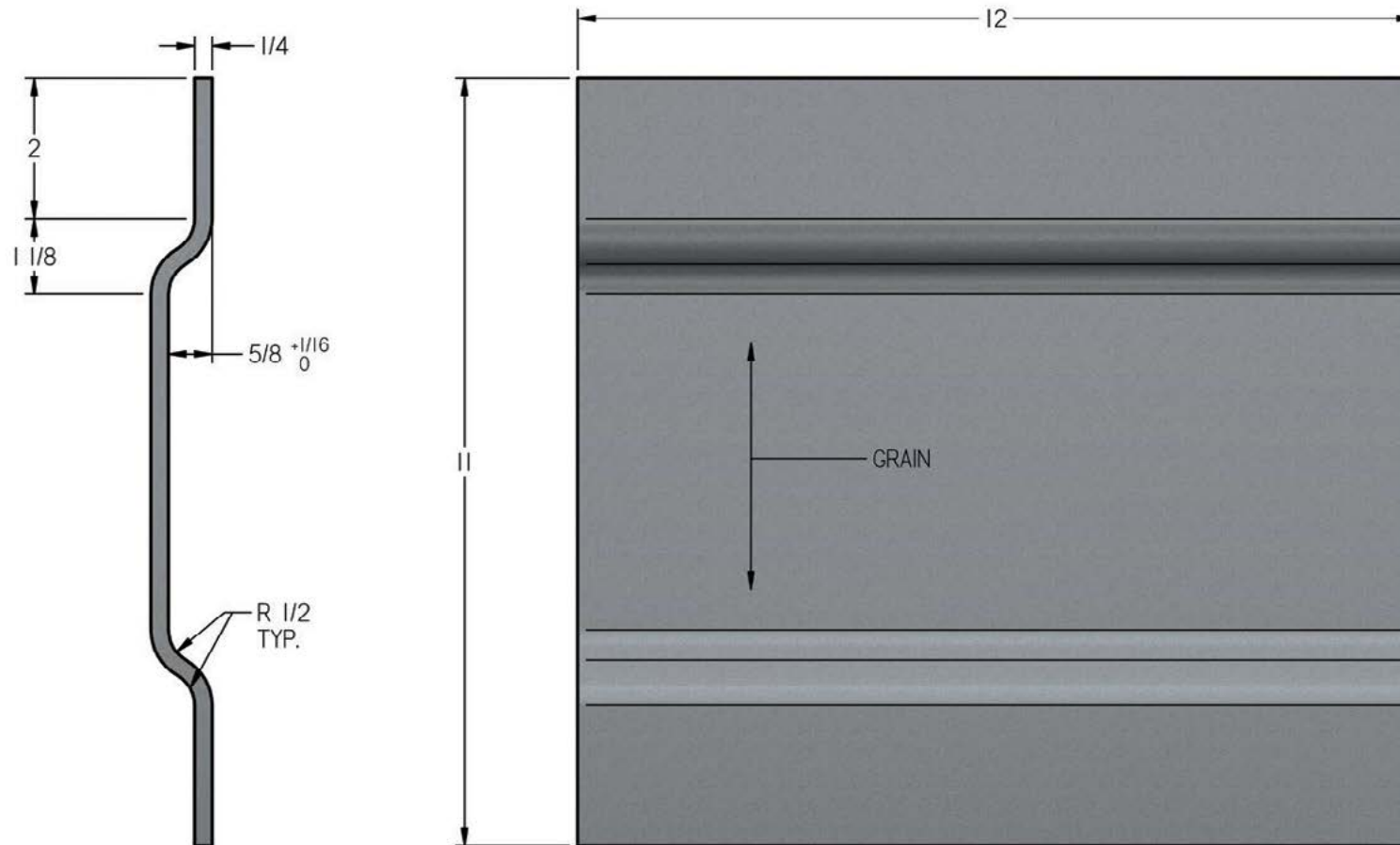
Application of key retainer to standard level cars

HYD. Draft Key Retainer 10F Gear 5/8" Offset

Weight: 9.723 LBM

Material: GRADE 50, STEEL PLATE, TYPE 2

Stock Code: 23113821

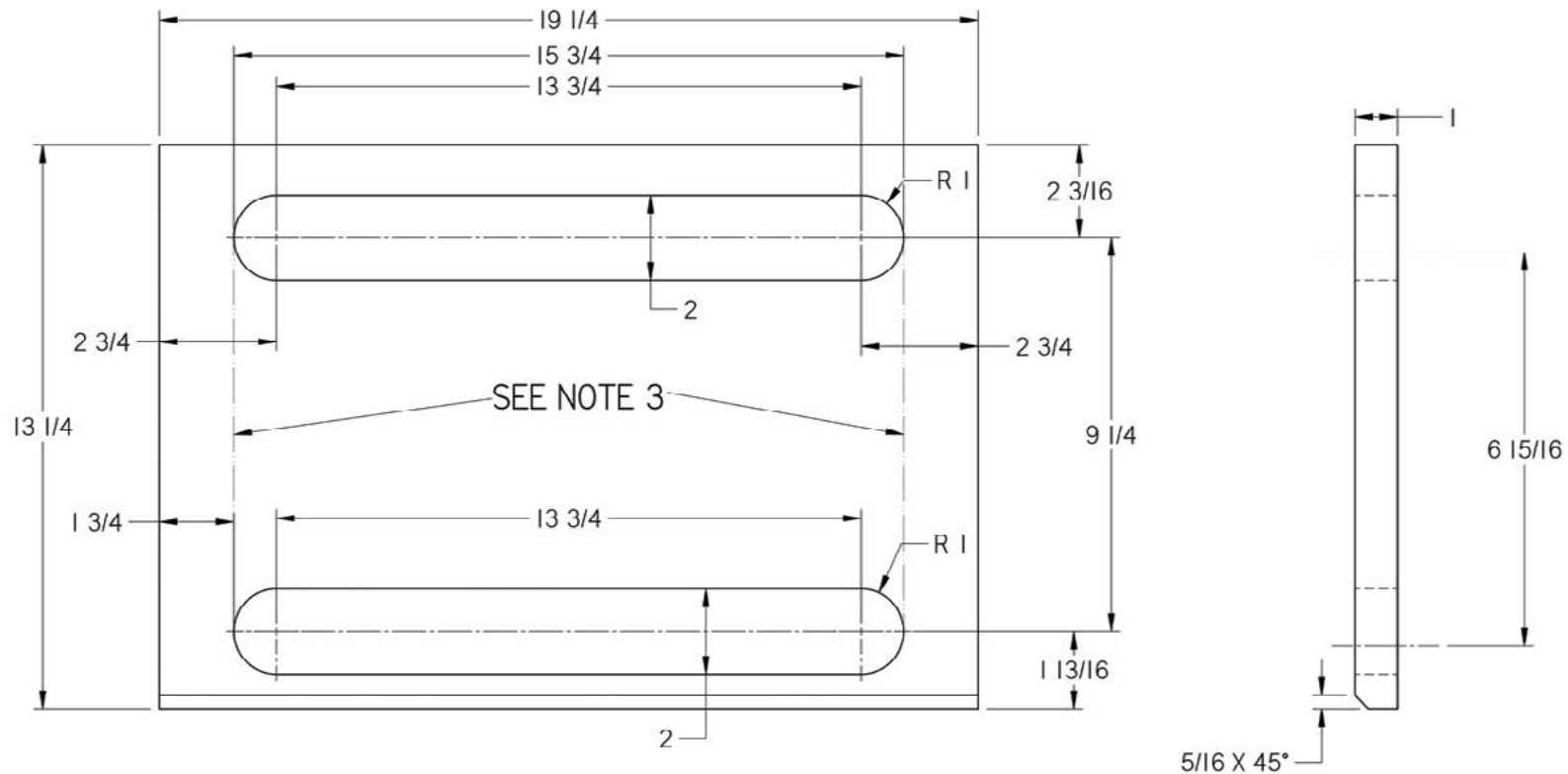


EOC-15, Keyslot Reinforcement Plate

Weight: 54.571 LBM

Material: A-572, GRADE 50, STEEL, TYPE 2

Stock Code: 23113861

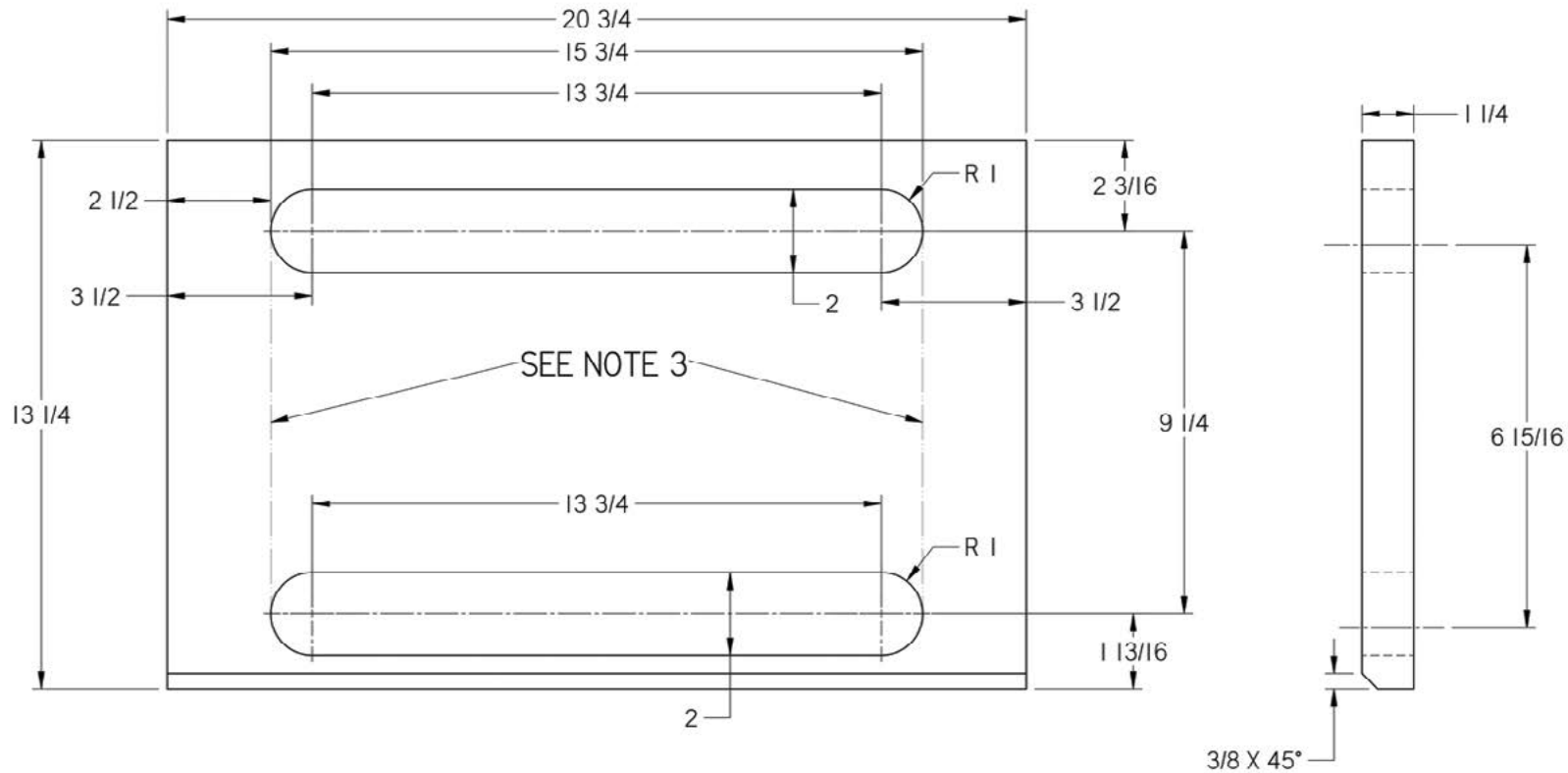


EOC-15, Keyslot Reinforcement Plate

Weight: 75.163 LBM

Material: GRADE 50, STEEL

Stock Code:



NOTE:

1. All edges to be smooth, parallel and free from burrs for welding
2. Radius must be smooth and free from burrs and nicks
3. Ends of slots must be in alignment within 1/32"

HYD. Draft Key Retainer 10F Gear 3/4" Offset

Weight: 12.298 LBM

Material: GRADE 50, STEEL PLATE, TYPE 2

Stock Code: 23113801

