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Advanced Ground Systems Engineering LLC.

AGSE-E237-G04

(18C1601P04)

Engine Transport Stand

For General Electric Passport 20 Engine

ORIGINAL MANUAL DATED05/15/2023
LATEST MANUAL REVISION LEVEL 05/15/2023 (REV NC)

ADVANCED GROUND SYSTEMS ENGINEERING LLC

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NOTICE

1. Alteration, Modification, Reengineering, or Reproduction of Equipment

The alteration, modification, reengineering, or reproduction of AGSE equipment and/or parts is not permitted without prior written authorization from AGSE.

These modifications include but are not limited to:

- Structural changes to AGSE-supplied parts
- Substitution of AGSE-supplied parts, including hardware, with an alternate source or supplier
- Reverse engineering of AGSE equipment and parts.

Requests for modifications should be submitted to AGSE for review – please send modification requests to support@agsecorp.com.

Once reviewed by our Engineering team, a Customer Support Letter (Subject: No Technical Objection) will be issued for any approved modifications.

NOTE

Modifications executed without prior authorization by AGSE may result in a non-compliant product that is unsafe for operation.

Unauthorized modifications void AGSE's and the OEM's (Engine and/or Airframer) approval and authority to use the product for its intended application.

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1.0 – Revisions

The following is an itemized record of all changes from previous revision.

PAGE	REV	DESCRIPTION OF CHANGE	DATE
		NEW	5/15/2023

2.0 Illustrations

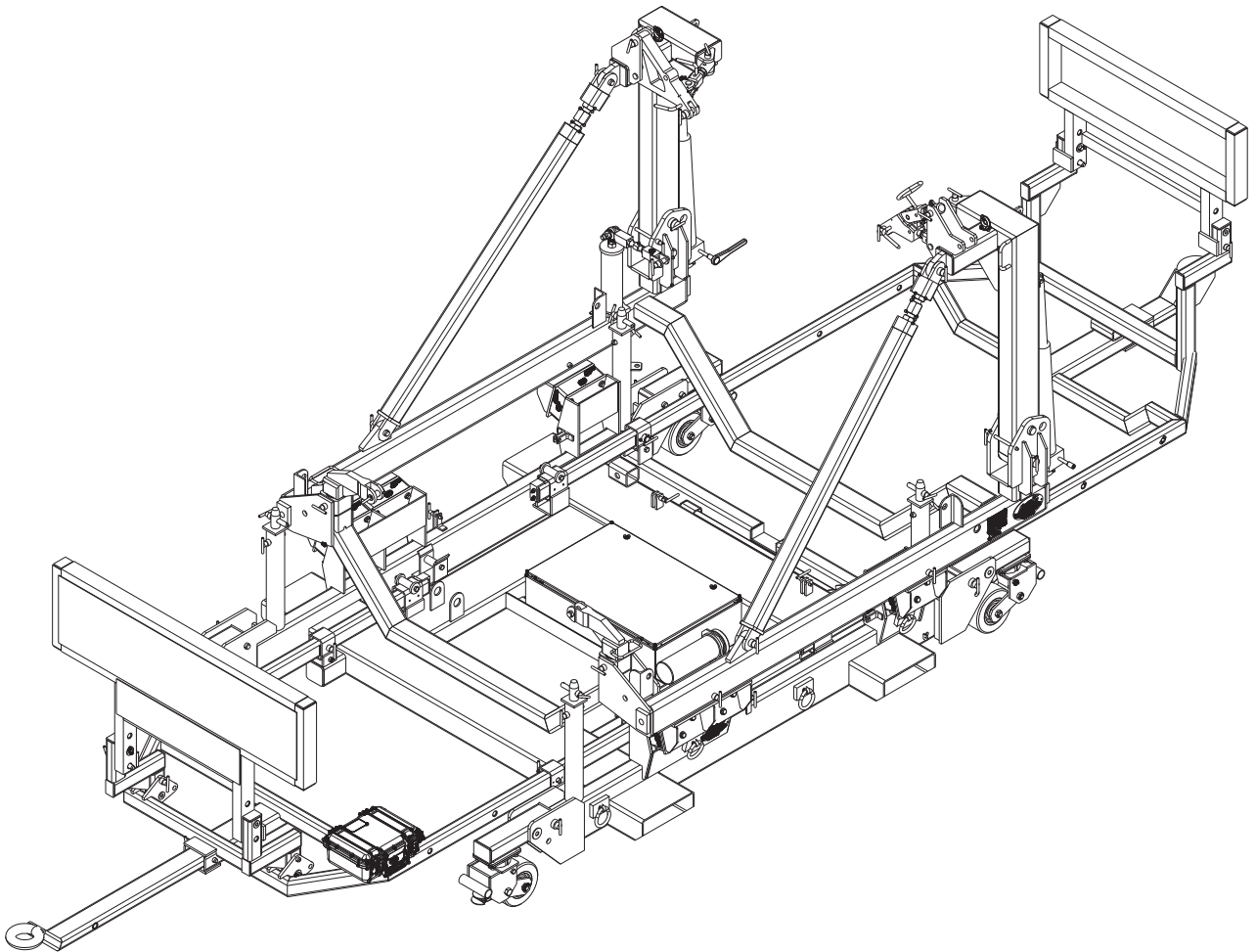


Figure 2.0-1 AGSE-E237-G04 (18C1601P04) Transport Stand

2.0 Illustrations (Continued)

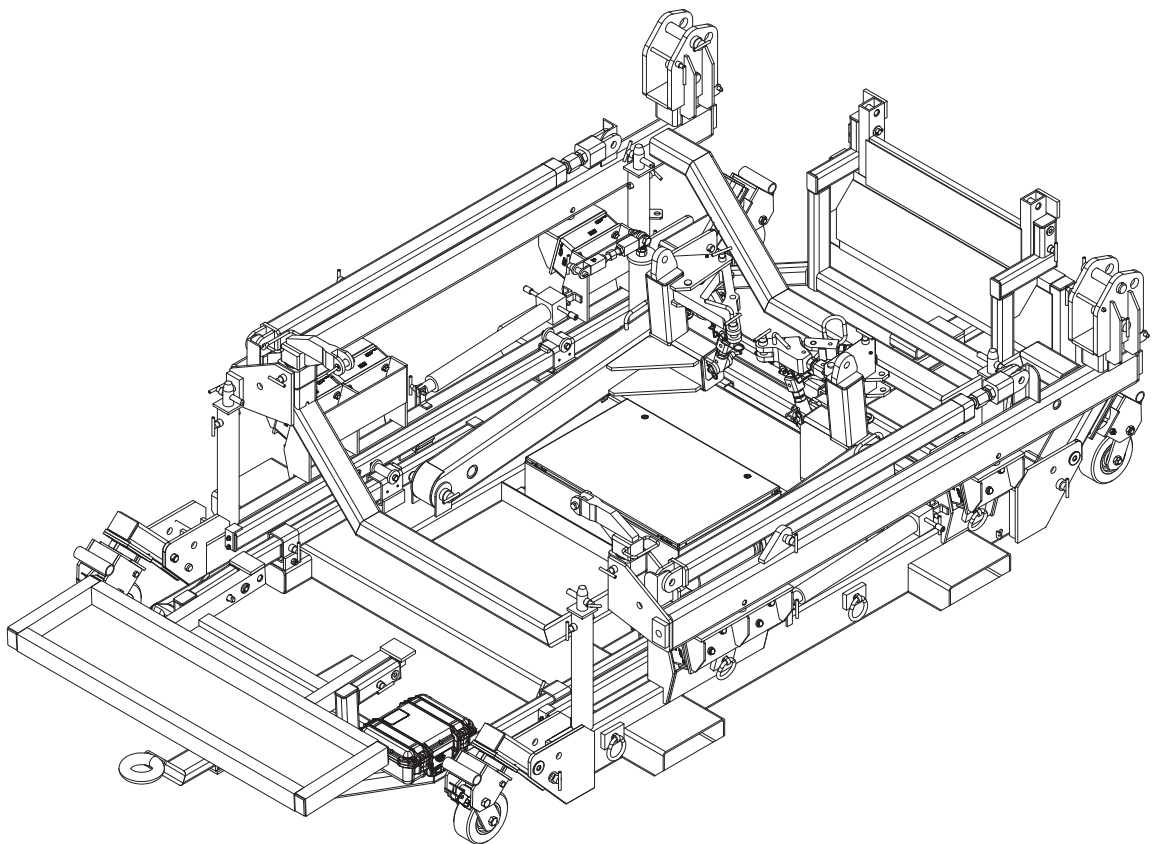


Figure 2.0-2 AGSE-E237-G04 (18C1601P04) Transport Stand Fully Collapsed

3.0 – Specification

3.1 General

The AGSE-E237-G04 (18C1601P04) Transport Stand (Cradle/Base Assembly) is designed to store and/or transport the General Electric Passport 20 full engine in modified QEC configuration. The cradle can be separated from the base for engine storage. The engine can be installed on the stand from either left or right side and pins into place quickly and easily.

3.2 Design

The AGSE-E23704-S04 cradle consists of a steel welded frame with removable ground handling mounts compatible with General Electric Passport 20 engine in modified QEC configuration. Tubular arms support engine mount adapters. Caster assemblies can be stowed to attain the overall minimum height for air transport. Storage for unused AFT braces is provided on the cradle frame. Storage for AFT posts, caster steering bars, tow bars is provided on the base. A series of tie-down rings offer secure retainment during transportation of unit. Built-in shock absorbing mounts cushion all transport shocks and vibrations. 5-1/2” x 13-1/2” fork channels are provided to allow forklifting of the stand.

The AGSE-E23701-S02 base consists of a steel welded frame which supports the AGSE-E23704-S04 cradle on a shock-absorbing frame. The base frame is also equipped with FWD and AFT bumpers which can be retracted for storage.

3.3 Mobility

The AGSE-E23701-S02 base assembly has four (4) shock absorbing casters, bumpers and tow bars. The stand cradle and base can be towed from either end. The FWD tow bars (2) attach to the base for FWD towing and a single AFT tow bar attaches to the AFT bumper support for rear towing. The tow bars stow on the base frame when not in use. Maximum towing speed of the unit is 5 km/hr (3 MPH).

CAUTION

Failure to unlock foot brakes on casters during towing operations will result in flat spots being worn into the tread surface of caster wheels.

CAUTION

Failure to unlock swivel locks on lead casters during towing will result in flat spots being worn into the tread surface of caster wheels.

CAUTION

If unit is to be transported by truck and trailer, it is “MANDATORY” that both the truck and trailer be equipped with “air-ride” type suspension. The stand must never be tied down to the truck bed above the shock mounts height.

3.4 Fabrication And Finish

The stand is fabricated from structural steel shapes conforming to ASTM A500, A513, and A36 materials. All bolted connections use A325 structural bolts or grade 5 commercial hardware. Unit is primed and painted with high grade, Skydrol resistant, air dry enamel. Color is optional. Pins and miscellaneous hardware are CRES or plated as required.

3.5 Characteristics

3.5.1 Cradle

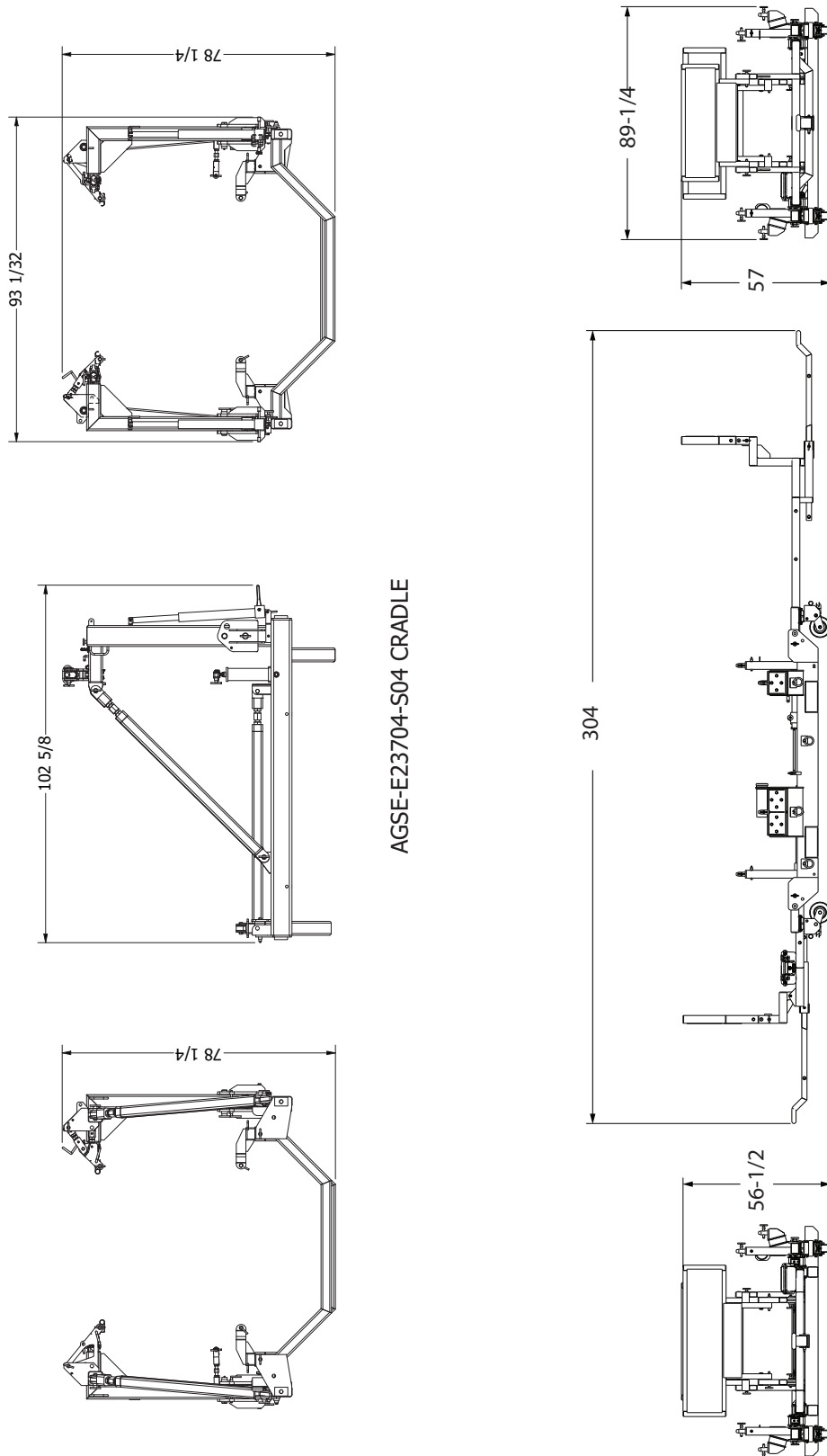
Cradle	
Length (In.)	97
Height (In.)	90
Width (In.)	93
Weight (Lbs.)	1,258

3.5.2 Base

Base	
Length with tow bars stowed (In.)	176.41
Length with tow bars deployed (In.)	304
Width (In.)	89-1/4
Height (In.)	57
Weight (Lbs.)	2,715

3.5.3 Combined Cradle/Base

Combined Cradle/Base	
Length with tow bars stowed (In.)	176-7/16
Length with tow bars deployed (In.)	303-7/8
Width (In.)	93
Height (In.)	101-3/4
Weight (Lbs.)	3,973



AGSE-E23704-S04 CRADLE

AGSE-E23701-S02 BASE WITH TOW BARS STOWED AND DEPLOYED

Figure 3.5-1

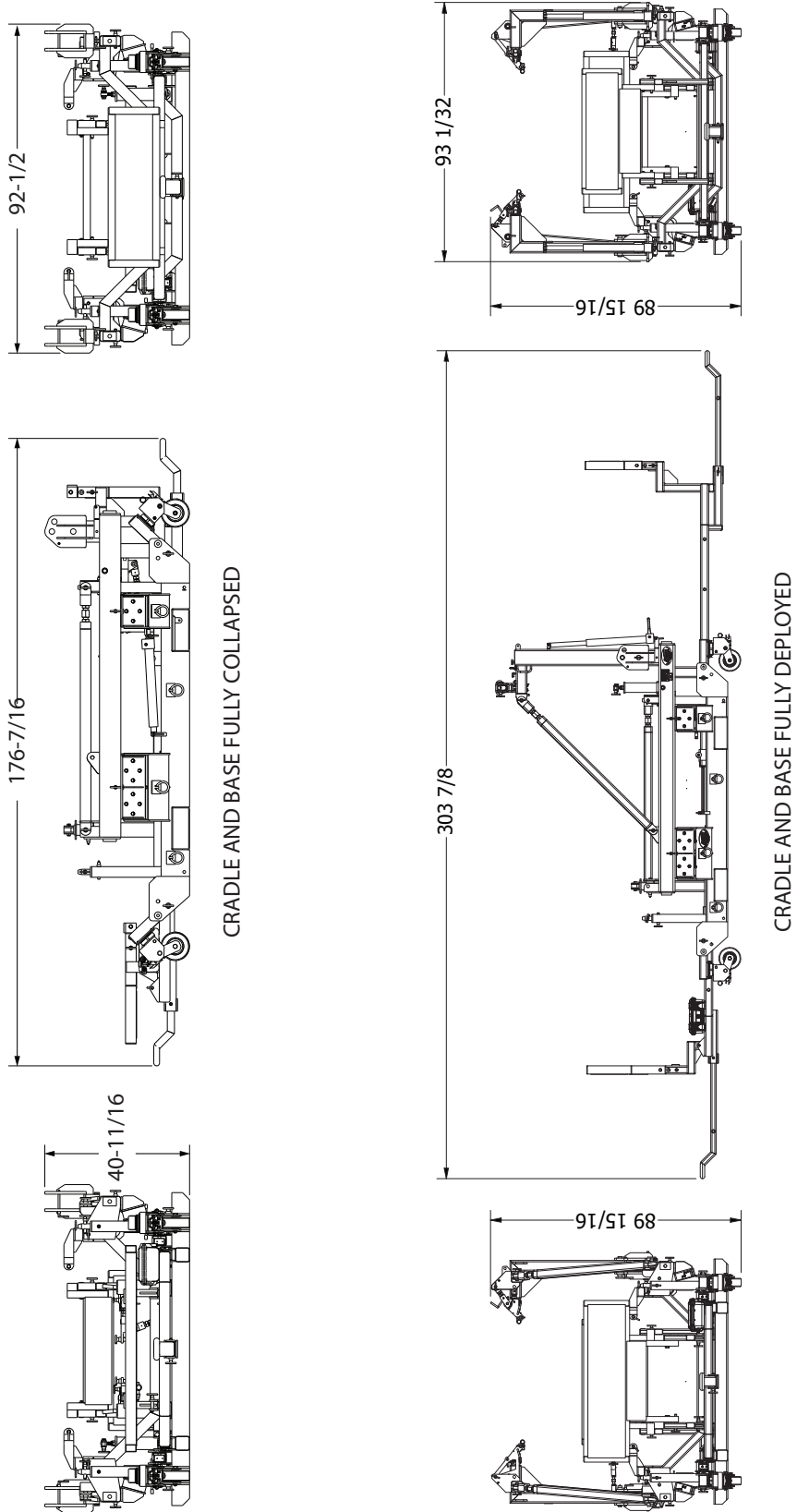


Figure 3.5-2

4.0 – Maintenance and Inspection

4.1 General

Life expectancy of this unit can be extended if it is properly maintained. By design, there is only minimal periodic servicing required. Annual inspections for damage, weld cracks, or corrosion are recommended. Prior to each use, the stand should be inspected for obvious signs of abuse or shipping damage. Observed damage should require complete inspection of the affected area to ensure stand integrity is not compromised.

4.2 Cleaning and Painting

The stand should be cleaned with a soap and water solution and rinsed thoroughly.

WARNING

Re-lubricate all grease zerk fittings after cleaning stand.

Damaged paint should be touched-up with Skydrol resistant high-grade enamel paint. Superficial scratches are expected during normal usage and will not affect function.

4.3 Scheduled Service

Manufacturer	Product
Mobil Oil Company	Mobilplex E.P. #1
Texaco Oil Company	Texaco E.P. #1
Gulf Oil Corporation	Gulf Crown E.P. #1
Shell Oil Company	Shell Alavania E.P. #1

All casters should be lubricated every 90 days with the following extreme pressure grease or equivalent grease:

Visual inspection of the swivel locks and brakes should occur with the scheduled lubrication. All non-painted machined surfaces should have a light grade oil spray as required. Spray with aerosol lubrication WD-40 or equivalent.

4.4 Scheduled Inspection

WARNING

Prior to each use, the stand should be inspected for obvious signs of abuse or shipping damage. Observed damage should require complete inspection of the affected area to ensure stand integrity is not compromised.

Annual inspections of machined surfaces, pins, fasteners, structure, and shock mounts are recommended. The machined surfaces (pivots, axles, mounts) are to be visually inspected for signs of wear or corrosion. Action is to be taken immediately if areas are determined to be potentially dangerous to operating personnel, or a detriment to the equipment. Pins and fasteners are to be visually inspected for cracks, damage, or corrosion. Loose fasteners should be tightened. The stand structure is to be visually inspected for damage, weld cracks, or corrosion. The shock mounts are to be visually inspected for date, deterioration, separation from the mounting plate, or permanent deformation. AGSE recommends that shock mounts be replaced within five (5) years of the date marked on shock mounts.

CAUTION

Periodic inspections should be made and shock mounts must be replaced when any of the following conditions exist:

- 1. Shock mounts are more than five (5) years from the date marked.**
- 2. There is visible evidence of cracks.**
- 3. There are discolorations or deformations.**
- 4. Mount does not move or adjust during loading/unloading.**
- 5. There is debonding of the rubber mount from the shock attach plate.**

4.5 General Maintenance Schedule

NOTE:

This Maintenance Schedule does not supersede the maintenance described by Customers' Company Maintenance Policy. Intervals indicated are recommendations only and should be altered to take into consideration usage factors and environmental conditions.

Component	Task to be Performed	Maintenance Intervals			
		Monthly	3 Months	6 Months	Yearly
General	Inspect for missing parts	1*			
	Inspect paint/plating finish			I	
	Inspect exposed/bare metal for rust		H		
	Function check equipment				2*
	Inspect all stencils/placards/stamps			I	
Casters	Check wheel condition			I	
	Tighten mounting bolts			T	
	Check swivel lock/brake			I	
	Lubricate bearings			L	
Structure	Inspect frame for damage/cracked welds			I	
	Tighten all bolts		T		
	Lubricate/protect moving joints		H	L	
Pins	Inspect for damaged/bent/worn pins			I	
	Inspect for broken/cracked pin handles			I	
	Inspect for broken/cut lanyards			I	
Shock Mounts	Check date				3*
	Inspect rubber for cracking/deformation			I	
	Inspect for permanent set/deformation			I	
Manual	Check manual is present/readable			4*	
	Check manual revision is current				5*

1* - Inspection for missing parts before every use.

2* - Carry out function test if equipment has not been used for extended period of time.

3* - AGSE recommends that shock mounts be replaced within five (5) years of the date marked on shock mounts.

4* - Check that manual is present before every use.

5* - Latest manuals are available from www.agsecorp.com or call (562) 906-9300

Legend

I - Inspect/Check

T - Tighten

L - Lubricate

H - Spray with rust inhibitor

R - Replace

Recommended Lubricant: Chevron Dura-Lith Grease EP, NLGI2 or equivalent.

5.0 - Operation

5.1 Stand Preparation For Engine Installation (Figures 5.1-1 through 5.1-5)

NOTE

The transport stand is assumed to be in the fully collapsed configuration

- 1) Inspect stand for obvious damage.
- 2) Raise the stand off the ground using a forklift or an overhead hoisting system.
- 3) Deploy the four (4) casters by removing four (4) AM-91000-82T safety pins. Secure with the same hardware. (Illustration Figure 5.1-1).
- 4) Lower the stand to the ground then set the caster brakes.

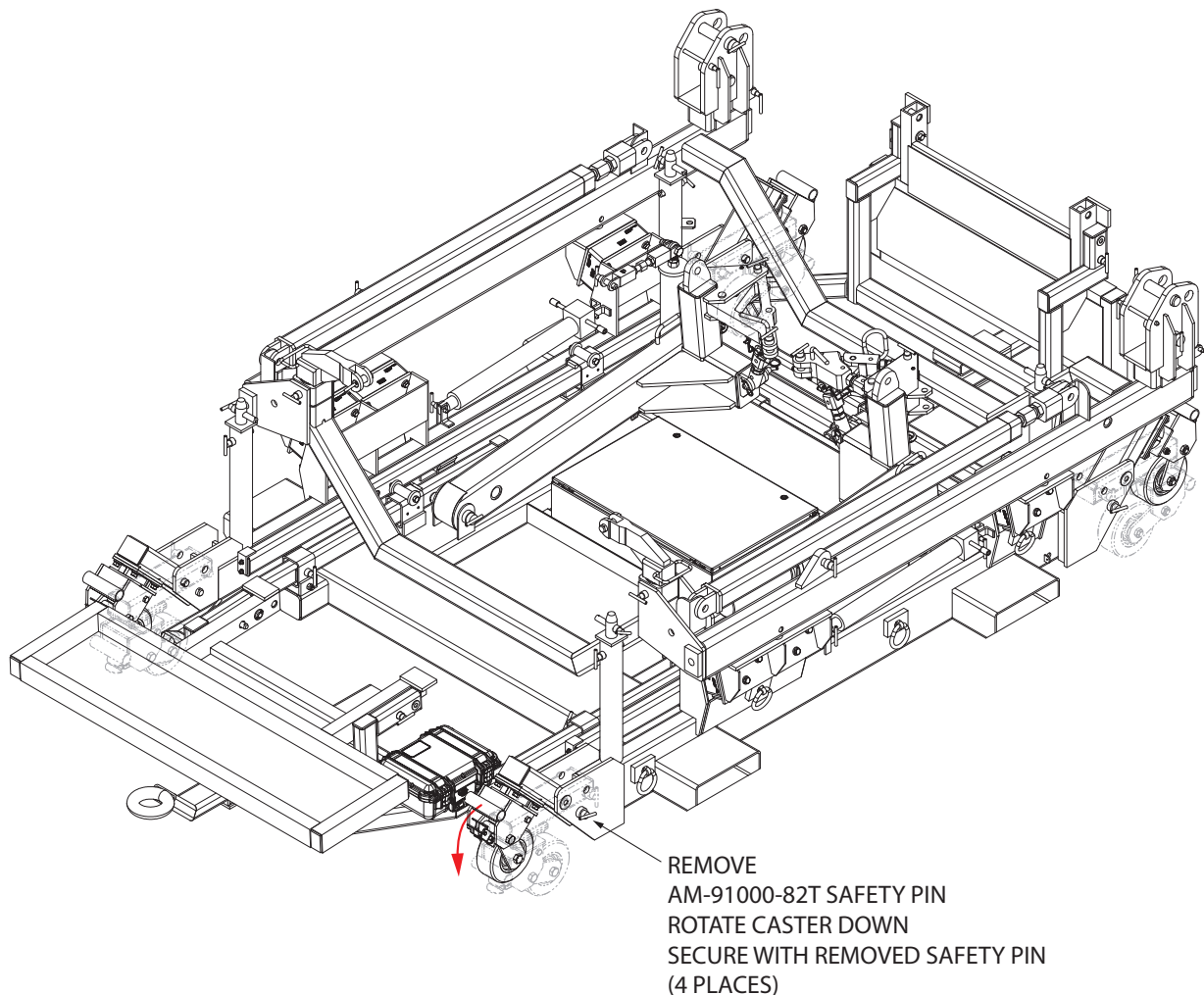


Figure 5.1-1

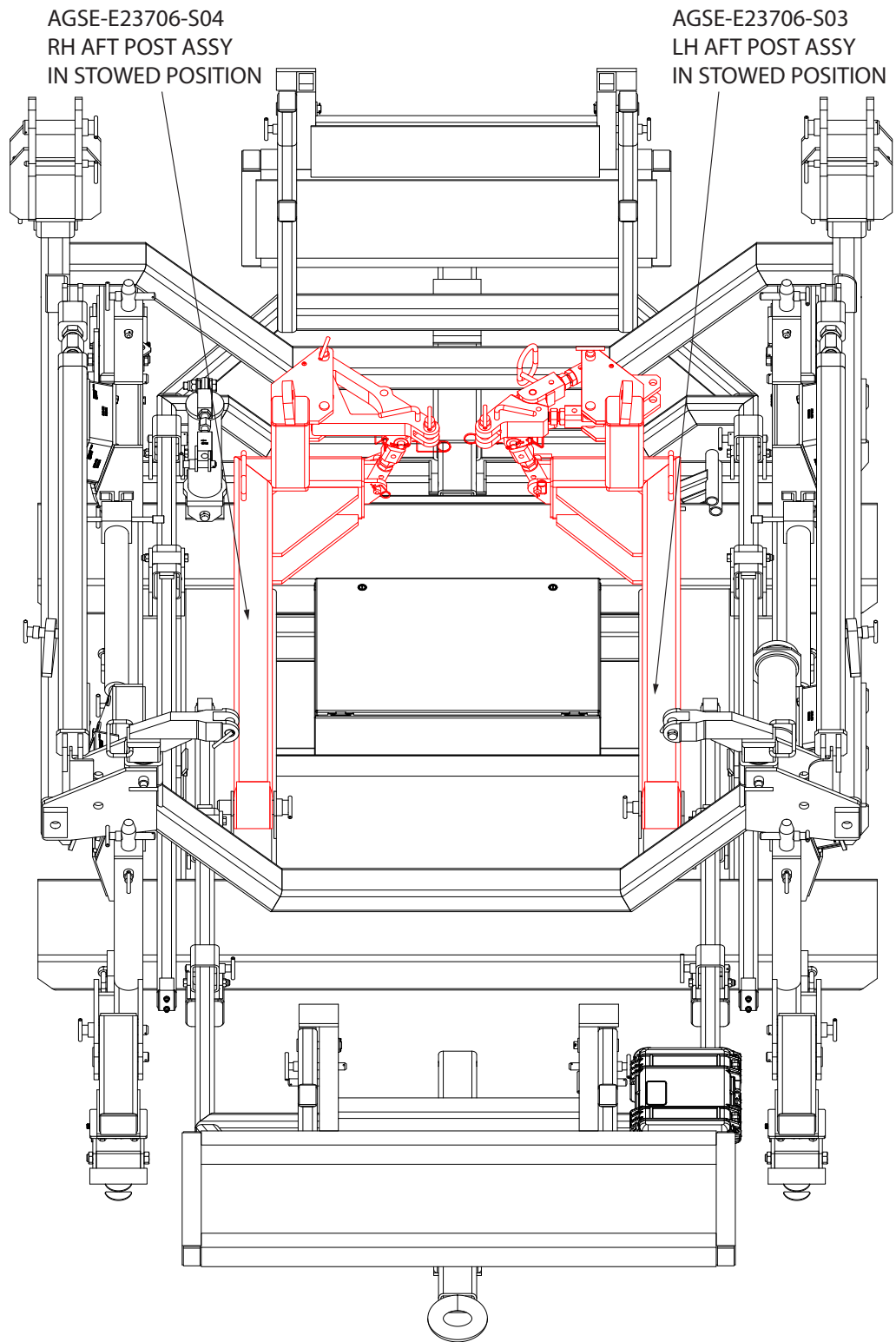


Figure 5.1-2

- 5) Remove the AGSE-E23706-S03 LH AFT post assembly and AGSE-E23706-S04 RH AFT post assembly from their storage on the base by removing four (4) AGSE-E23706-P03 clevis pivot pins.
- 6) Install the LH and RH AFT post assemblies on the cradle and secure with the hardware removed in Step 5. (Illustration Figure 5.1-3).

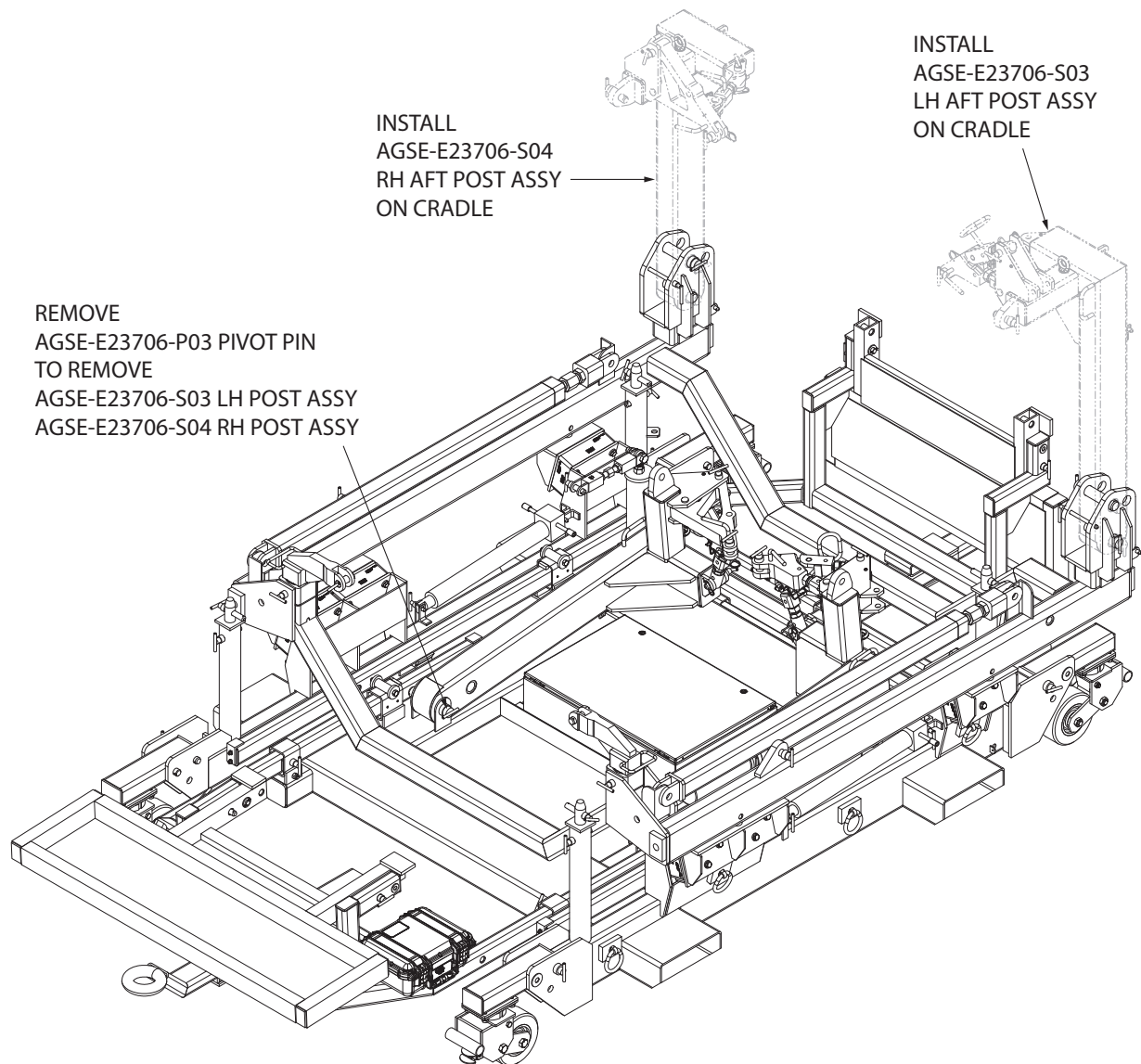


Figure 5.1-3

- 7) Remove four (4) AM-91000-34T safety pins to remove the two (2) AGSE-E23713-S01 adjustable AFT brace assemblies from their storage.
- 8) Attach the adjustable brace assemblies, one end to the AFT post assemblies, the other to the cradle. Secure with the hardware removed in Step 7.
- 9) Remove AGSE-E23721-S01 sway brace mount from storage by removing AM-91000-66T safety pin. Install the sway brace mount on the cradle as indicated in Illustration Figure 5.1-4.

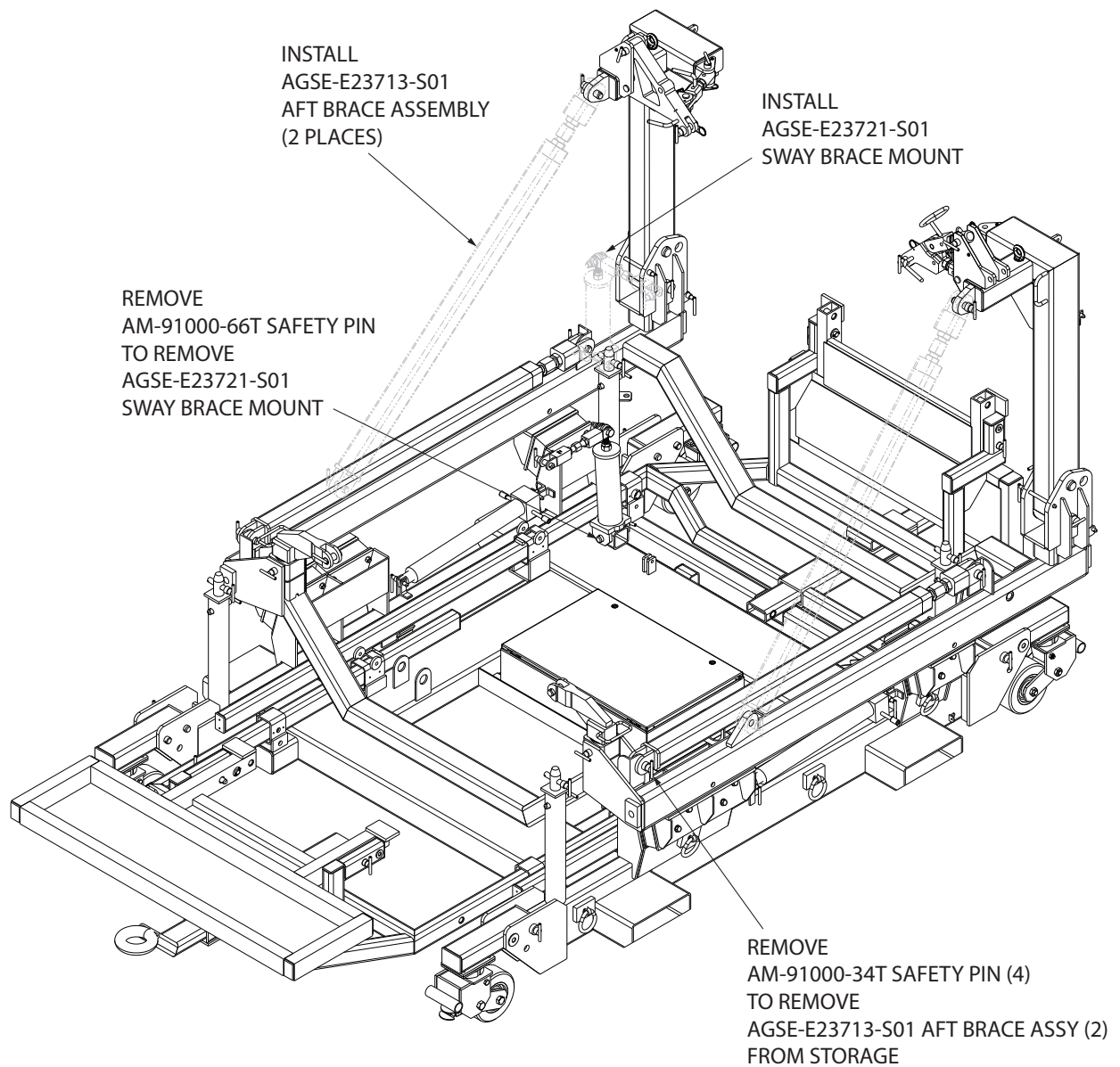


Figure 5.1-4

- 10) Remove AGSE-E23720-P01 cylinder jack from storage by removing four (4) AM-90500-20L safety pins. Determine which is the correct post, move AGSE-E23719-P01 cylinder mount to that post and attach with AM-90500-72T safety pin. Attach the cylinder jack to the cylinder mount and post using the removed hardware. (Illustration Figure 5.1-5).
- 11) Remove two (2) AM-90750-48T safety pins to extend the AGSE-E23758-S02 FWD bumper assembly and two (2) AGSE-E23709-P04 safety pins to extend the AGSE-E23758-S01 rear bumper assembly from their storage positions. Extend the bumpers as needed for engine configuration. Secure with the same hardware.
- 12) Remove two (2) AM-90750-68T safety pins and rotate the AGSE-E23759-P03 rear bumper into the upright position. Secure with the same hardware. (Illustration Figure 5.1-6).
- 13) Remove two (2) AM-90750-48T safety pins to rotate the two (2) AGSE-E23758-P03 FWD bumper support arms into the upright position.
- 14) Remove two (2) AM-90750-68T safety pins and rotate the AGSE-E23759-P01 FWD bumper into the upright position. Secure with the same hardware.

NOTE

Leave the FWD bumper in the flat condition when the testing bellmouth is installed on the engine.

- 15) Remove AM-90250-32L safety pin to remove the two (2) AGSE-E16911-P01 caster steering bars from their storage positions.

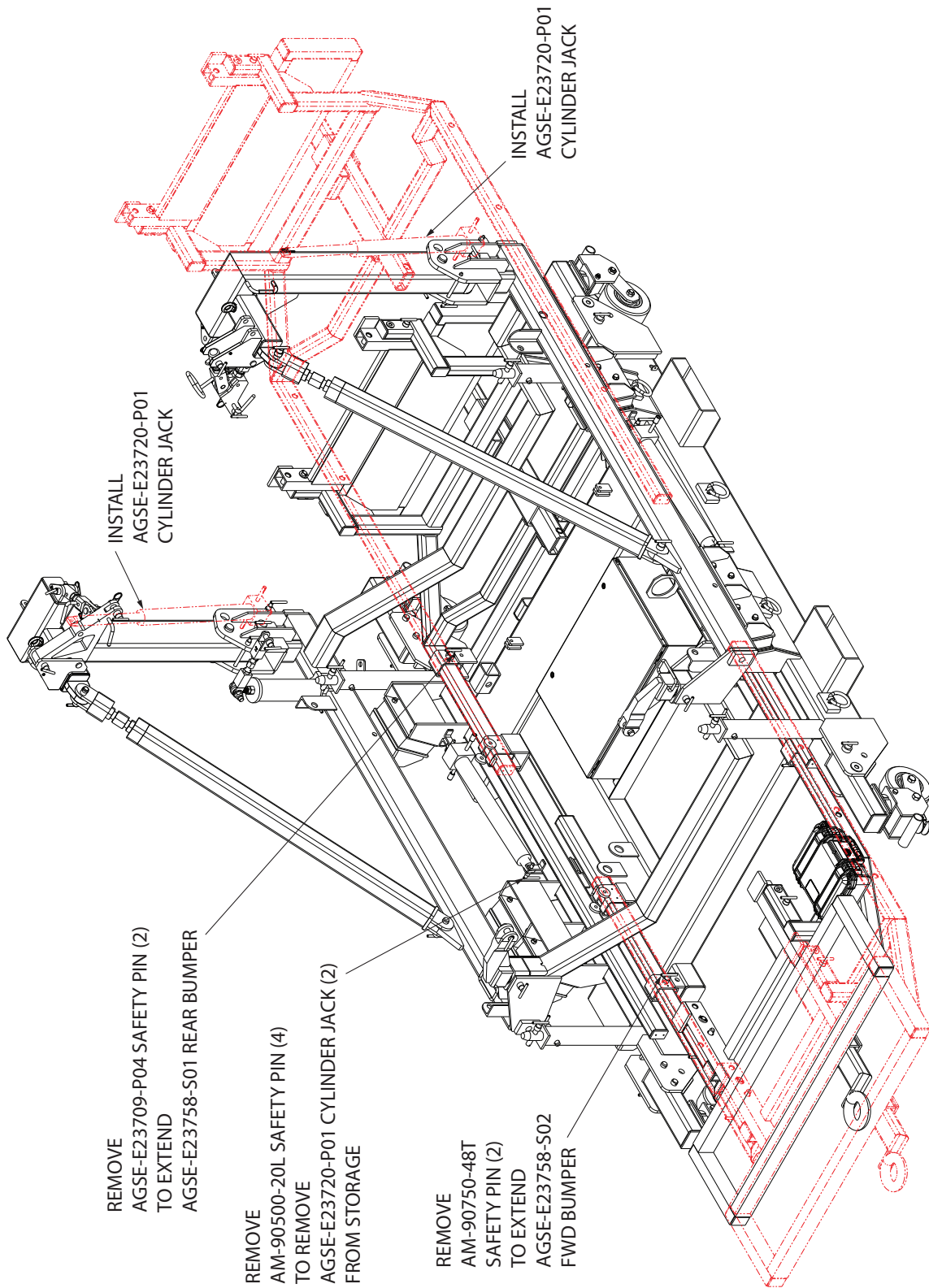


Figure 5.1-5

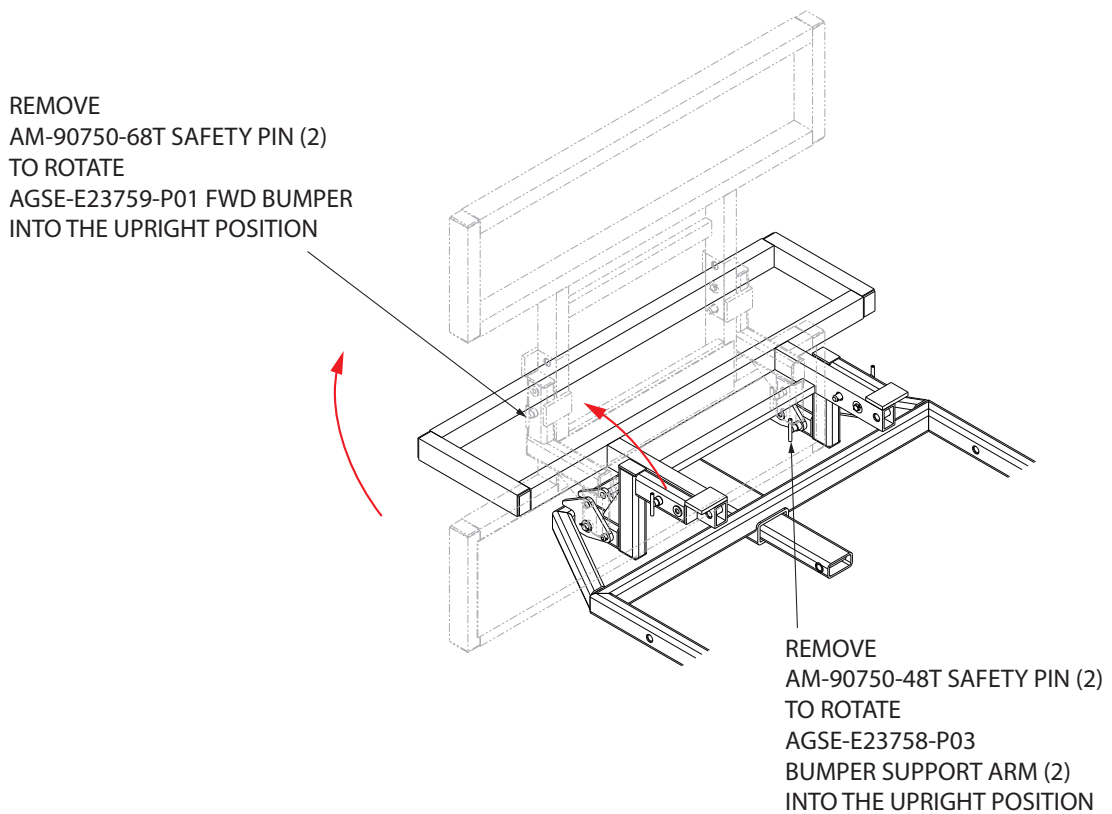
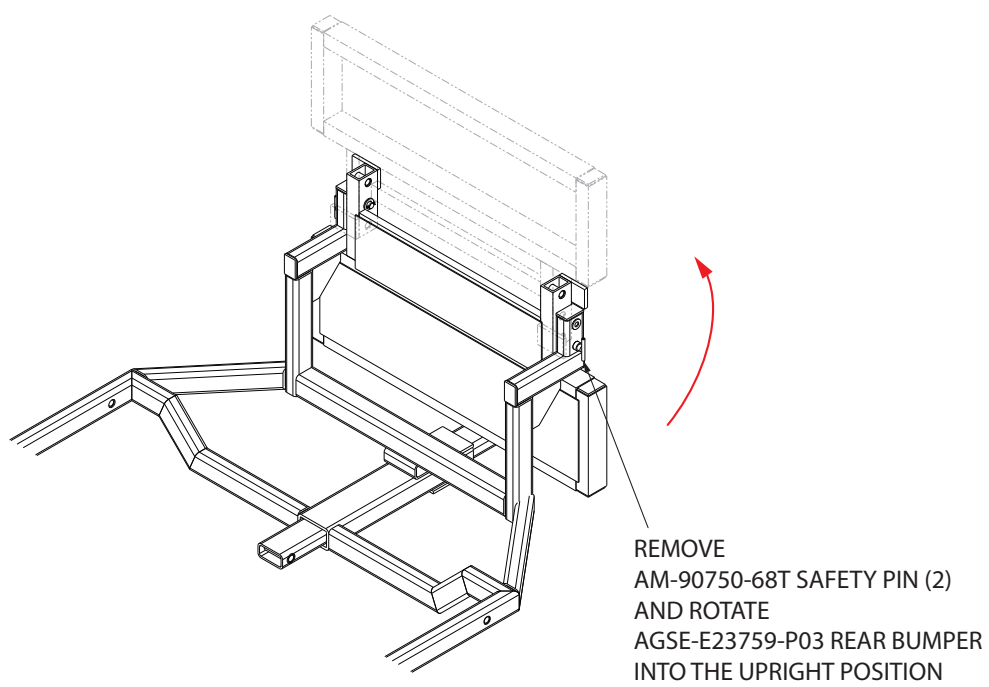


Figure 5.1-6

5.2 Engine Installation (Figures 5.2-1 through 5.2-4)

NOTE

The stand is assumed to be in the ready configuration as described in Section 5.1

- 1) Inspect stand for obvious damage.
- 2) Configure engine for shipping in accordance with General Electric Engine Shipping Manual.
- 3) Set the caster brakes.
- 4) If the engine is to be installed from the LH side of the stand, remove the LH adjustable AFT brace by removing two (2) AM-91000-34T safety pins. Put the brace and hardware aside or store on the cradle frame.
- 5) Configure the mounts of the AGSE-E23706-S03 & -S04 AFT posts into their stowed positions. (See Figures 5.1-2).
- 6) Remove the AGSE-E23706-P03 pivot pin to pivot the AGSE-E23706-S03 LH AFT post to the rear until it is horizontal. This will require two men, an overhead crane or the use of the manual cylinder AGSE-E23720-P01.
- 7) Remove the FWD mount supports, AGSE-E23732-P01 by removing two (2) AM-90750-80T safety pins and attach them to the LH & RH FWD brackets of the 189C1617G01 bracket set. Secure with AGSE-E23732-P03 FWD mount pins.
- 8) Using an overhead hoisting system, lower the engine onto the stand from the LH side of the stand. Use the FWD mount supports to guide the engine into the stand and the FWD mount dork pins into their sockets in the cradle. Secure with AM-90750-80T safety pins.

CAUTION

Minimal clearance exists between the engine and stand. The operator is responsible to ensure the engine does not contact the stand. This may require the removal or adjustment of engine components.

WARNING

Care must be taken when working near suspended loads. Personnel should never stand beneath the suspended load.

- 9) Make necessary adjustments to align the upper RH AFT bracket of the 18C1619G02 bracket set with the AGSE-E23706-S04 RH AFT post's AGSE-E23736-P01 AFT Fixed Mount Weldment. Secure with the AM-91000-32T safety pin.
- 10) Make necessary adjustments to the AGSE-E23721-S01 sway brace mount to align the engine's lower RH AFT bracket with the AGSE-E23721-P02 sway bar. Secure with the AM-90740-26T safety pin.

- 11) Pivot the AGSE-E23706-S03 LH AFT post assembly to the upright position AND PIN IN PLACE. Make necessary adjustments to the LH AFT post's AGSE-E23735-S02 adjustable link assembly to align with the engine upper LH bracket. Secure with the AM-91000-40T safety pin.
- 12) Install the LH adjustable brace and secure with safety pins

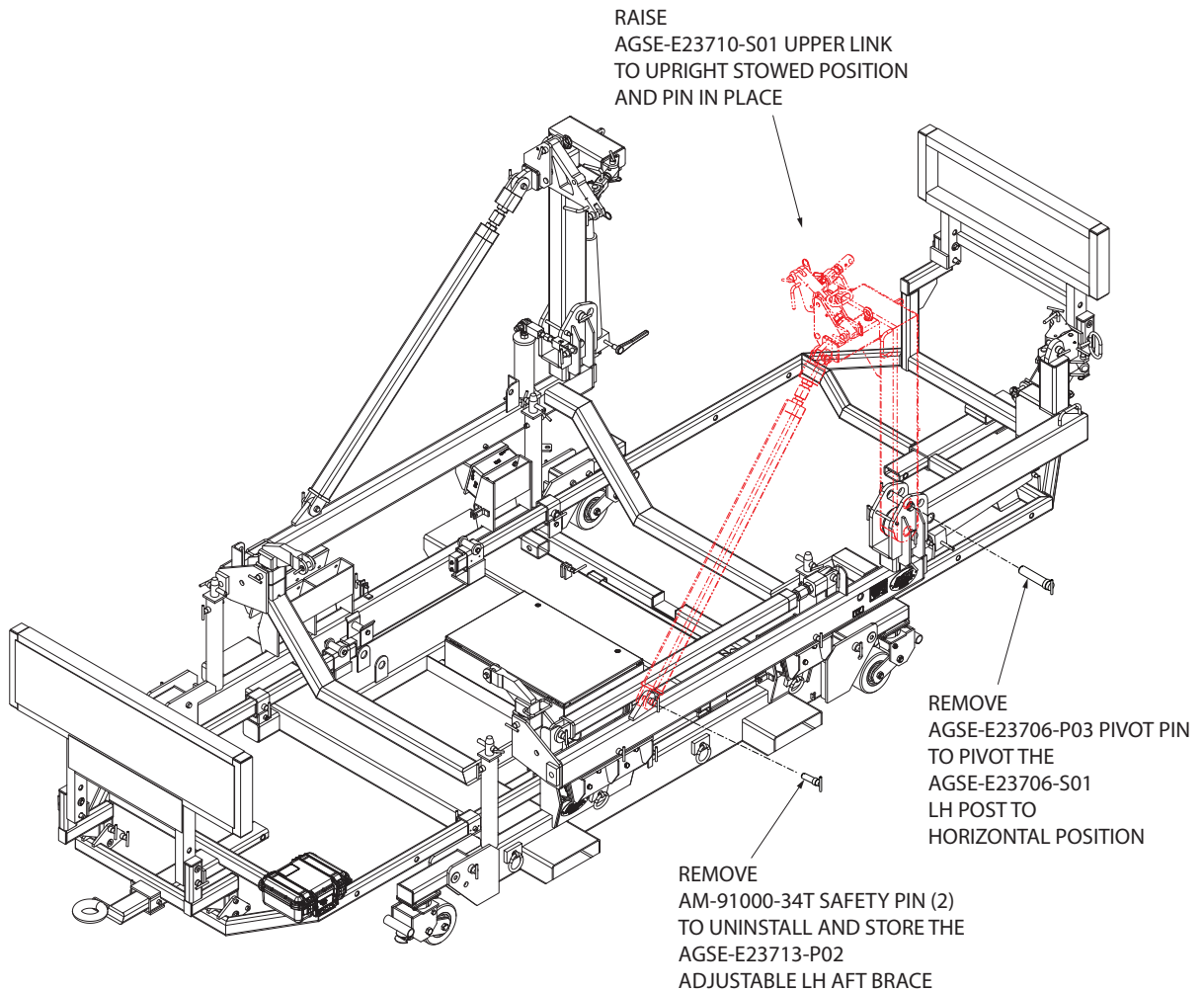


Figure 5.2-1

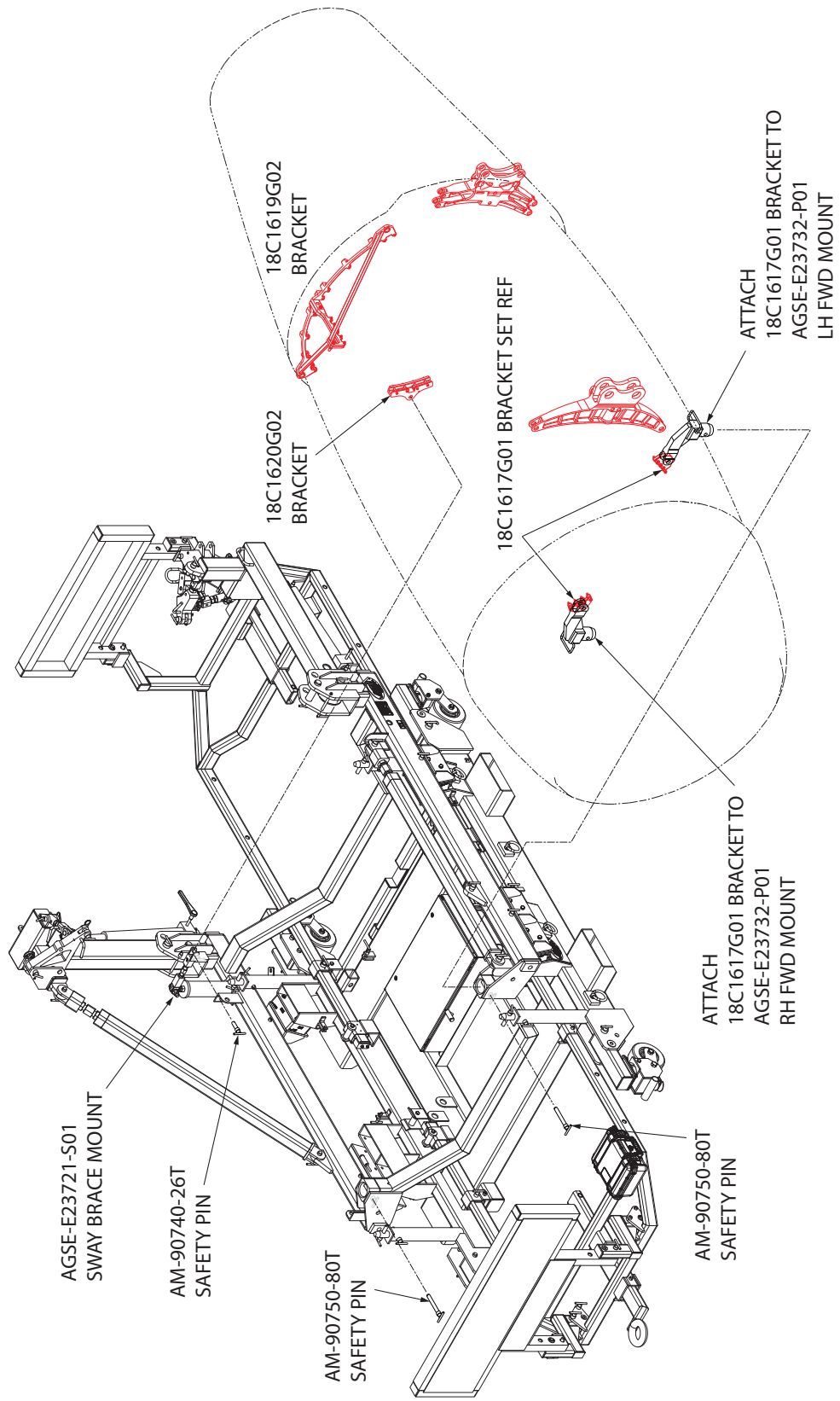


Figure 5.2-2

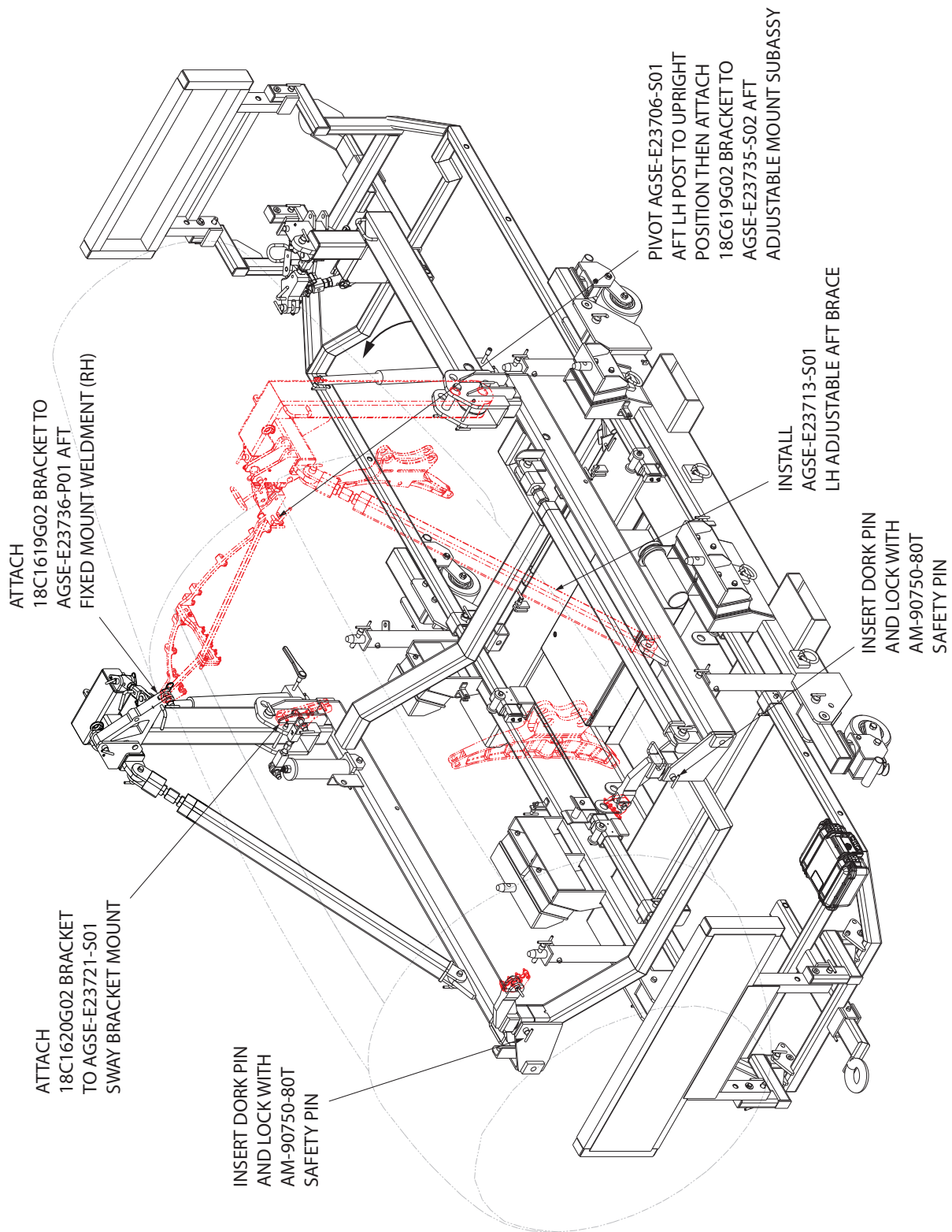


Figure 5.2-3

NOTE

Two (2) AM-90500-88L safety pins are installed on the FWD side of the two AFT post mounting brackets on the cradle to prevent the AFT posts to fall forward. (Illustration Figure 5.2-4)

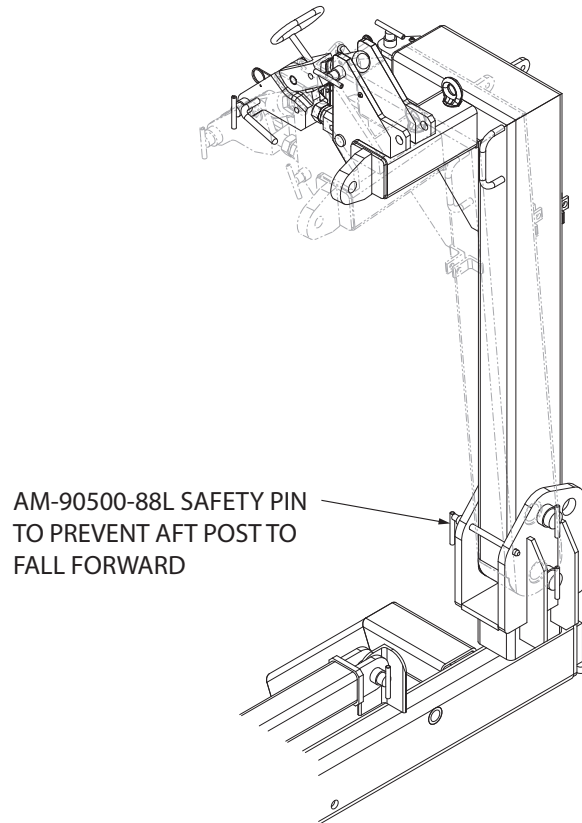


Figure 5.2-4

5.3 Engine and Stand Installation onto Mount Beam (Figure 5.3-1)

- 1) Using a forklift, place the engine and stand as close to the mount beam as possible.
- 2) Ensure that the sway brace AGSE-E23721-S01 is on the side opposite to the mount beam and attached to the engine.
- 3) Remove the diagonal brace closest to the mount beam and stow on the cradle.
- 4) Configure the AFT mount closest to the mount beam into its stowed position.
- 5) Lower the AFT post assembly closest to the Mount Beam to the rear to clear the engine.
- 6) Use the caster steering bars to align the stand and engine with the mount beam.
- 7) Raise the engine with an overhead crane and attach the engine's side mount brackets to the mount beam's mounting brackets.

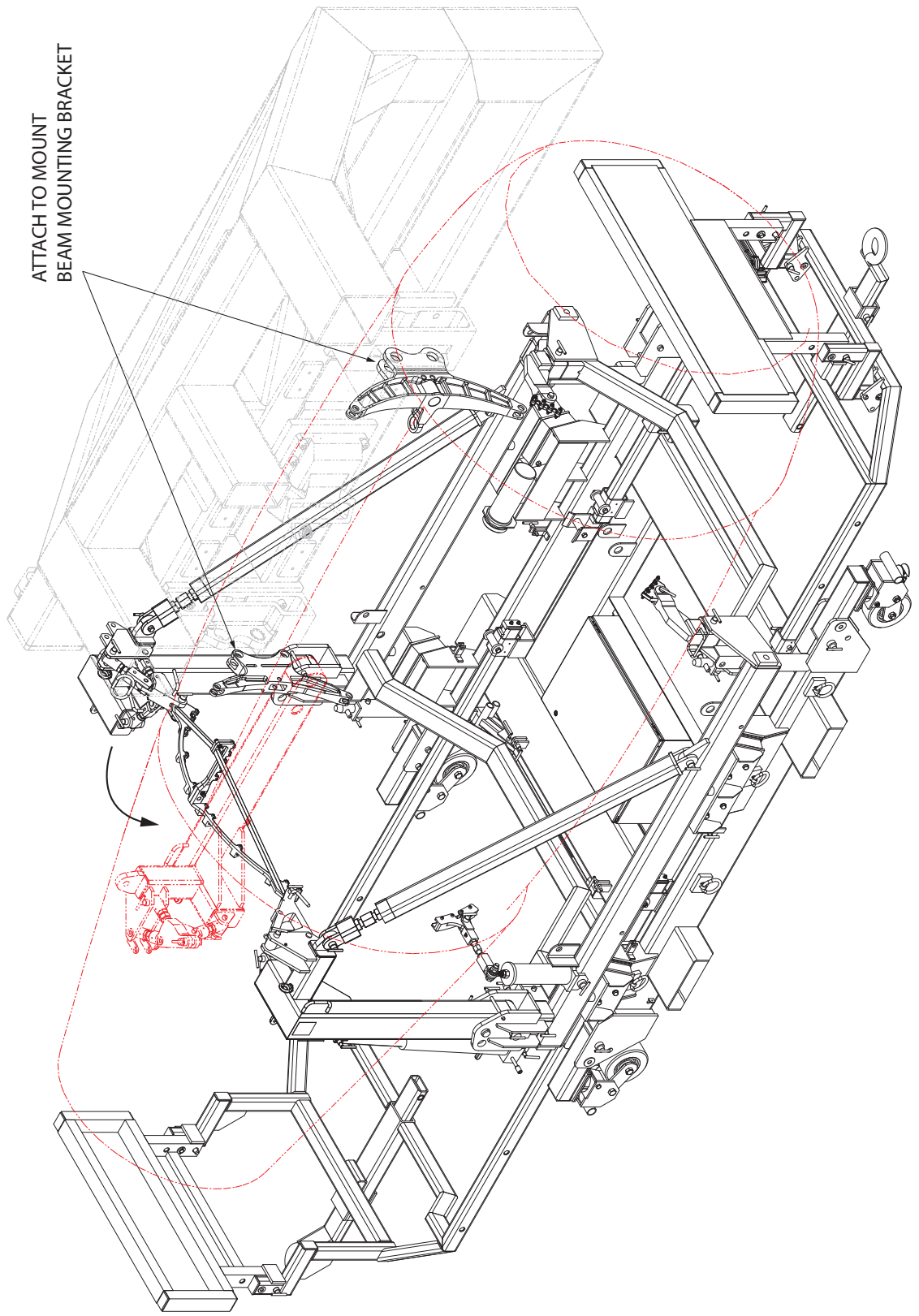


Figure 5.3-1

5.4 Caster Operations (Illustration Figure 5.4-1)

5.4.1 Caster Deploying and Stowing

The provided caster steering bar is designed to facilitate the stowing and deploying of the casters. The transport base must be off the ground for the stowing and deploying of the casters.

- a. Insert the end of the caster lift bar fully into the caster's lift socket.
- b. Remove safety pin securing the caster mount to the base.
- c. Lift the caster mount by pushing the steering bar upward.
- d. Continue pushing the steering bar until the caster mount's stow hole is aligned with the base's caster stow hole.
- e. Insert safety pin.

5.4.2 Caster Steering

The provided steering bar is designed to facilitate the steering/turning of the casters.

- a. Insert the end of the steering bar fully into the caster's steering socket on the outboard side.
- b. Pull or push on the steering bar toward the desired direction.

CAUTION

Always use the provided lift bar and steering bar in stowing, deploying or turning casters to avoid potential back strain and pinching injuries.

WARNING

DO NOT leave steering bar inserted in caster when changing direction from towing to pushing. Caster will swivel, can possibly cause personnel injury and/or damage to engine or stand.

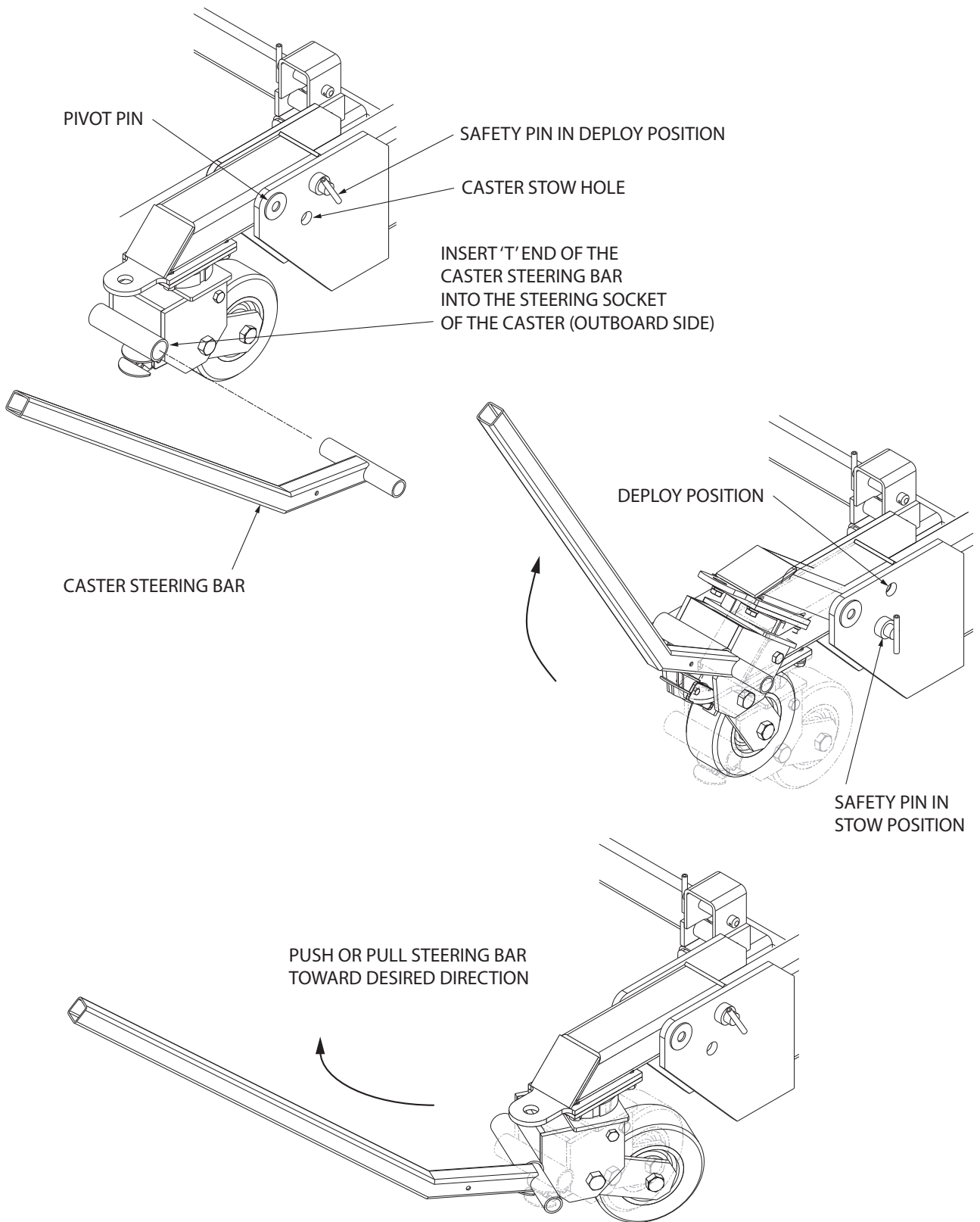


Figure 5.4-1

5.5 Stand Towing (Illustration Figure 5.5-1)

CAUTION

Failure to unlock the lead casters (tow bar end) during towing of the unit will result in flat spots being worn into the caster tread. Maximum towing speed is 3 MPH.

The stand can be towed from either FWD or AFT end. When not in use, the tow bars are stowed on the bumper assemblies.

To deploy the tow bar (for both FWD and AFT end), remove the the AM-90750-80T safety pin then pull the tow bar outward. Secure with the removed safety pin. Attach the tow bar to the towing vehicle.

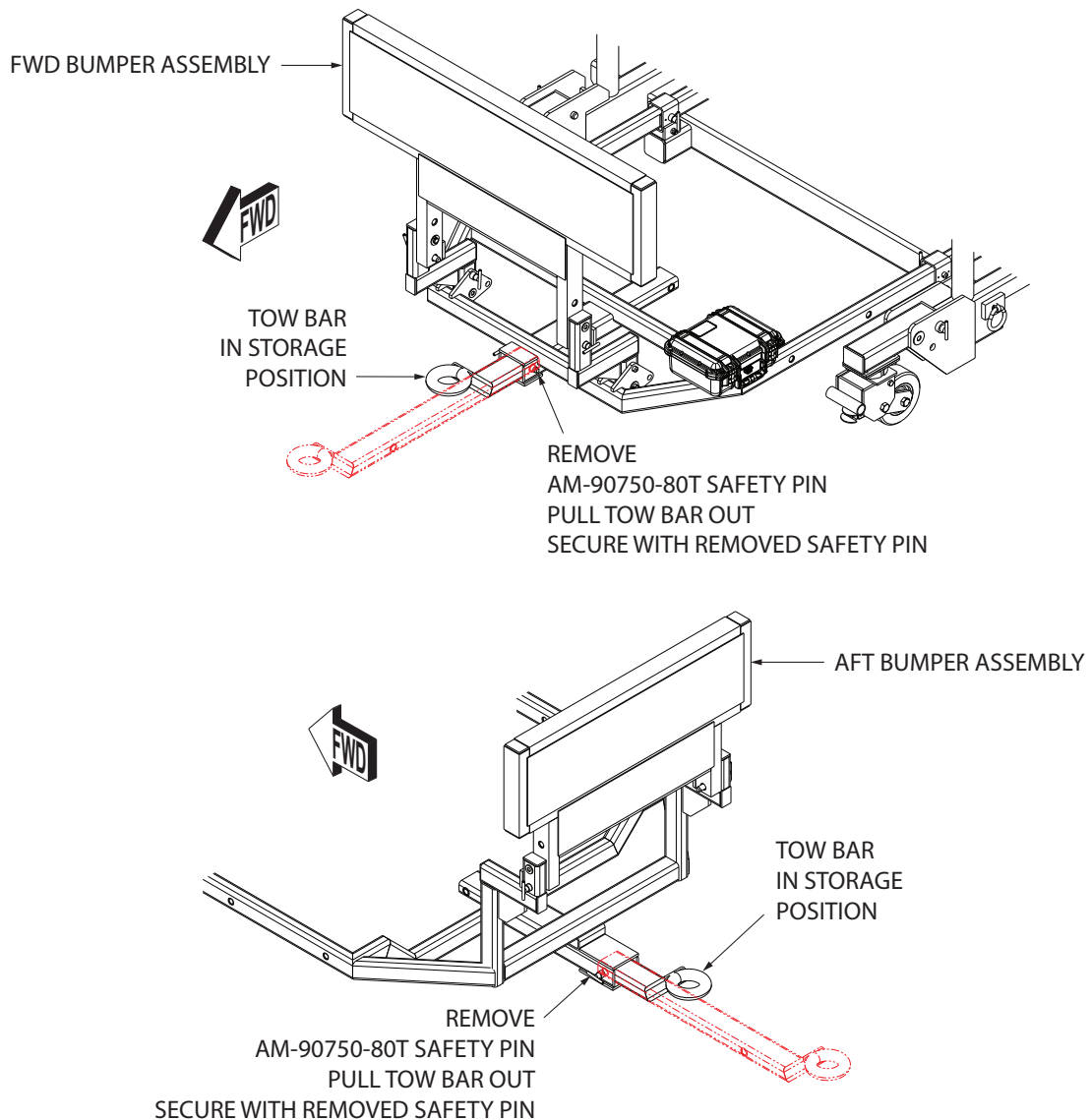


Figure 5.5-1

6.0 - Safety

6.1 Stress

Design stress safety factors are compliant with industry standards.

6.2 General

Most accidents are the result of violating standard safety rules in operation or improper servicing and maintenance of equipment

Many safety features have been incorporated into the design to assist in safe operation of this equipment. These items do not fool-proof the equipment nor do they replace the operator's responsibility to operate the equipment in a safe manner.

6.3 Prevention

A good preventative maintenance program should include periodic lubrication, adjustment, and immediate correction of defects revealed through inspections. Preventive maintenance will not only contribute to safe operation, but will also extend useful service life as well.

6.4 Risk Assessment

6.4.1 Limits of the Machinery

The AGSE-E237-G04 (18C1601P04) Engine Transport Stand is a commercial product designed specifically only to store and/or transport the General Electric Passport 20 engine. The equipment is to be used only by trained mechanics free from physical impairment and who are familiar with this or similar fixture. The equipment is not to be used or made available to the general public.

6.4.2 Risk Assessment and Residual Risk

The risk evaluation performed was based on objective observation based on the experience of AGSE with similar equipment. Necessary Warning and Caution Notes have been incorporated into the Operation Section of the Passport 20 Engine Transport Stand Operation Manual along with instructions. Stencils also have been put on the equipment to identify hazardous and/or potential risk areas.

The operation of the AGSE-E237-G04 (18C1601P04) Engine Transport Stand can be with medium risk of injury and is considered safe to use under supervision. Low residual risks include potential pinch points during operation of the equipment.

Equipment detailed in this manual has undergone stringent safety analyzing using methods and standards set forth within European Standard EN 1050 and is considered to be safe for its intended use. Reports on risk analysis and evaluation according to 2006/42/EC Machinery Directive (17 May 2006) are available upon request.





ADVANCED GROUND SYSTEMS ENGINEERING LLC

EC DECLARATION OF CONFORMITY

The machinery listed below fulfills all relevant provisions of the directives listed:

- 2006/42/EC Machinery Directive (2006/05/17)

Machinery covered by this Declaration:

Description: Engine Shipping Stand, Passport 20
Model: AGSE-E237
Part Number: AGSE-E237-G04 (18C1601P04)
Serial Number: _____

Harmonized Standards:

- ISO 12100:2010 Safety of Machinery - General Principles for Design - Risk Assessment and Risk Reduction
- ISO/TR 14121-2:2012 Safety of Machinery - Risk Assessment - Part 2: Practical Guidance and Examples of Methods

Standards and Specifications:

- GE Support Equipment SOW 18C1601P02, Tool: 18C1601P02 (Stand, Shipping – Engine), July 13, 2016 Rev A
- GE Support Equipment SOW 18C1601P01/P02, Aft Mount Assembly Re-design, 11,1,2021 Rev -
- AGSE Quality System Procedure Number QSP-006
- Aerospace Recommended Practice Standard, SAE ARP 1840, 2007/02 Rev B

Place: Santa Fe Springs, California, USA

Date: _____

Signed: _____
Quality Representative

Technical File: Pedro Fernandes
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Pct Ana Maria Bastos, N20
A-dos-Cunhados, Portugal 2560-005
+351-96-520-4851

7.0 - Warranty

7.1 Statement of Warranty

Advanced Ground Systems Engineering LLC (AGSE) warrants to original purchasers that its products will be free of defects in material and workmanship under normal use and conditions for claims received within a period of one year from date of purchase (final billing date), and to the extent that if any AGSE product fails in operation because of such defect, the company will replace or repair, at its option, the defective article. Prior to the repair or replacement of any defective product, the company shall be notified in writing as to the nature of the defect. The company shall assume no liability for freight, disassembly, removal, refitting and installation charges on any article returned unless such charge(s) is approved by AGSE in writing prior to the return. On component items purchased by AGSE for incorporation into an AGSE manufactured product, only the component manufacturer's warranty (if any) shall apply to that component. Said manufacturer's warranty shall be passed on to AGSE's customer to the extent permitted. This warranty is applicable only when AGSE products are operated for intended purposes within the recommended procedures, load limits, properly maintained, not damaged or abused, etc., including as indicated in company manuals, catalogs, and drawings. All warranty claims must be applied for within sixty days from when the defect becomes known. The foregoing warranty is in lieu of all other warranties, or liabilities, either expressed or implied, and AGSE expressly excludes all implied warranties of merchantability and fitness for a particular purpose and all non-infringement warranties as well as disclaims all liabilities to third parties. In no event shall AGSE be liable for any amounts in excess of the purchase price of the product.

CAUTION

Failure to conduct periodic inspections, routine maintenance, or improper operation will result in the voiding of the warranty.

8.0 - Parts Breakdown

8.1 General

The following pages can be used in the identification of components used in the product described in this manual. Parts Lists are broken down by “ITEM,” “PART NUMBER,” “QTY,” “DESCRIPTION,” and “MANUFACTURER.”

NOTICE

“ITEM” numbers are for reference to the Illustrated Parts Breakdown (IPB) only. Do not order replacement parts by “ITEM” number.

8.2 Illustrated Parts Breakdown

IPB Figure 1 - AGSE-E237-G04 Transport Stand Assembly

ITEM	PART NUMBER	QTY	PART DESCRIPTION	SPARES	RECOMMENDED REPLACEMENT
	AGSE-E237-G04	-	Engine Stand Assy (Illustration Figure 8.1-1)	-	-
1	AGSE-E23701-S02	1	Base Assy (See IPB Figure 6 for Details)	-	-
2	AGSE-E23704-S04	1	Cradle Assy (See IPB Figure 2 for Details)	-	-
3	AM-90750-48T	4	Safety Pin - 3/4" OD x 3" Grip	2	5 Years
4	AM-2207	1	AGSE Placard	-	-
5	AGSE-CE	1	CE Placard	-	-
6	AGSE-N19801-P01	4	AGSE Small Logo Placard	-	-

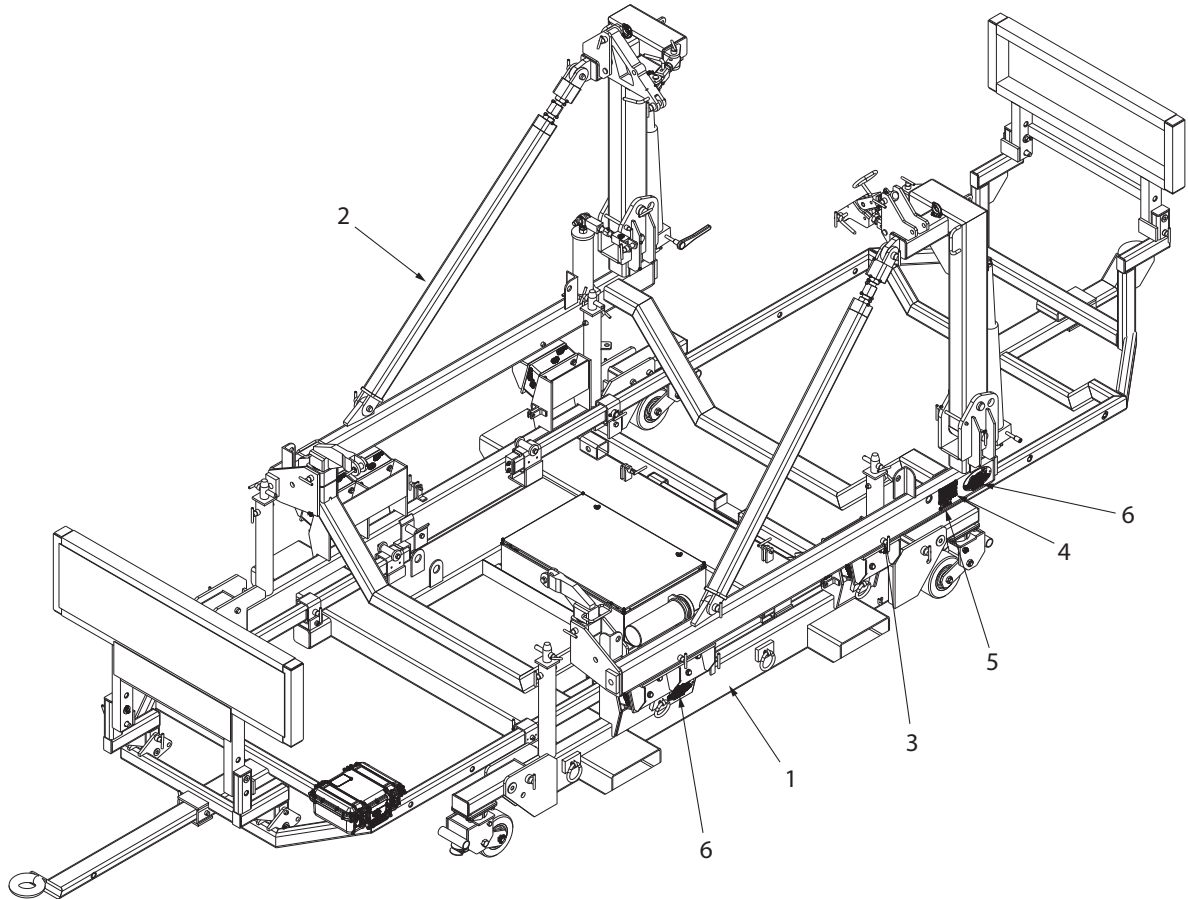


Figure 8.1-1 AGSE-E237-G04 Transport Stand

IPB Figure 2 - AGSE-E23701-S02 Base Assembly

ITEM	PART NUMBER	QTY	PART DESCRIPTION	SPARES	RECOMMENDED REPLACEMENT
	AGSE-E23701-S02	-	Base Assy (Illustration Figure 8.2-1)	-	-
101	AGSE-E23755-P01	1	Base Weldment	-	-
102	AGSE-E16904-P01	4	Modified Caster Assy	-	-
103	AGSE-E23758-S01	1	Rear Bumper Assy (See IPB Figure 7 for Details)	-	-
104	AGSE-E23758-S02	1	FWD Bumper Assy (See IPB Figure 8 for Details)	-	-
105	AGSE-E23760-S01	1	Engine Components Container Assy	-	-
106	AM-90250-32L	1	Safety Pin - L-Handle 1/4" OD x 2" Grip	1	-
107	AM-90375-20L	2	Safety Pin - 3/4" Dia. x 1-1/4" Grip	1	-
108	AM-90500-16T	2	Safety Pin - 1/2" Dia. x 1" Grip	1	-
109	AM-90750-48T	10	Safety Pin - 3/4" OD x 3" Grip	5	-
110	AM-90750-80T	2	Safety Pin - 3/4" Dia. x 5" Grip	1	-
111	AM-91000-82T	4	Safety Pin - 1" Dia. x 5-1/8" Grip	2	-
112	AGSE-E16902-43	4	FWD Spacer	-	-
113	AGSE-E16902-45	4	AFT Spacer	-	-
114	AGSE-E23761-P01	4	Bumper Stop Bracket	-	-
115	AGSE-E18603-P06	10	Support Roller	-	-
116	AGSE-E18604-P02	4	Caster Pin - 1" OD x 5-1/4" Grip	-	-
117	AGSE-E23703-P01	2	FWD Shock Mount Weldment	-	-
118	AGSE-E23703-P02	2	Rear Shock Mount Weldment	-	-
119	AGSE-E23708-P01	4	Caster Mount	-	-
120	AGSE-E23709-P04	2	Safety Pin - 3/4" OD x 3" Grip	1	-
121	AGSE-E23711-P01	2	Tow Bar Weldment	-	-
122	AGSE-E23723-S01	1	Storage Box Assy (See IPB Figure 9 for Details)	-	-

IPB Figure 2 - AGSE-E23701-S02 Base Assembly (Continued)

ITEM	PART NUMBER	QTY	PART DESCRIPTION	SPARES	RECOMMENDED REPLACEMENT
123	PMP10111	8	Tie Down Ring 10,000 # Cap	4	-
124	TA485-12	1	“AGM” Document Container	-	-
125	AGSE-E23757-P01	4	Inner Post	-	-
126	AGSE-S00304-P04	6	Shock Mount	6	-
127	S00105-08F016A01	48	HHCS - 1/2”-20 UNF x 1” W/ Nylon Patch - Zinc Plt	-	-
129	AGSE-E16911-P01	2	Steering Bar Weldment Assy.	-	-
130	AGSE-S00104-08C072A01	10	HHCS - 1/2”-13 UNC x 4-1/2” Lg Gr. 5 - Zinc Plt	-	-
131	AGSE-S00114-04C008A05	16	CFHS - 1/4”-20 UNC x 1/2”	-	-
132	AGSE-S00135-06A17	7	Lock Washer - 3/8” - Stl - Zinc Plt	-	-
133	AGSE-S00104-06C010A01	7	HHCS - 3/8”-16 UNC x 5/8”	-	-
134	AGSE-S00131-06A17	7	Flat Washer - 3/8” Dia.	-	-
135	AGSE-S00104-08C016A01	16	Hex Bolt - 1/2”-13 UNC x 1” Lg	-	-
136	AGSE-S00131-04A17	8	Flat Washer - 1/4” ID	-	-
137	AGSE-S00135-04A17	8	Lock Washer - 1/4” Dia.	-	-
138	AGSE-S00118-04C012A07	8	SHCS - 1/4”-20 UNC x 3/4” Lg.	-	-
139	AGSE-S00135-08A17	16	Lock Washer - 1/2” ID	-	-
140	AGSE-S00131-08A17	16	Flat Washer - 1/2” ID	-	-
141	AGSE-S00153-08CA01	10	Lock Nut - 1/2”-13 UNC Gr. 5 - Zinc Plt	-	-
142	AGSE-S00175-08A17	48	Flat Washer - 1/2” - Stl - Zinc Plt	-	-

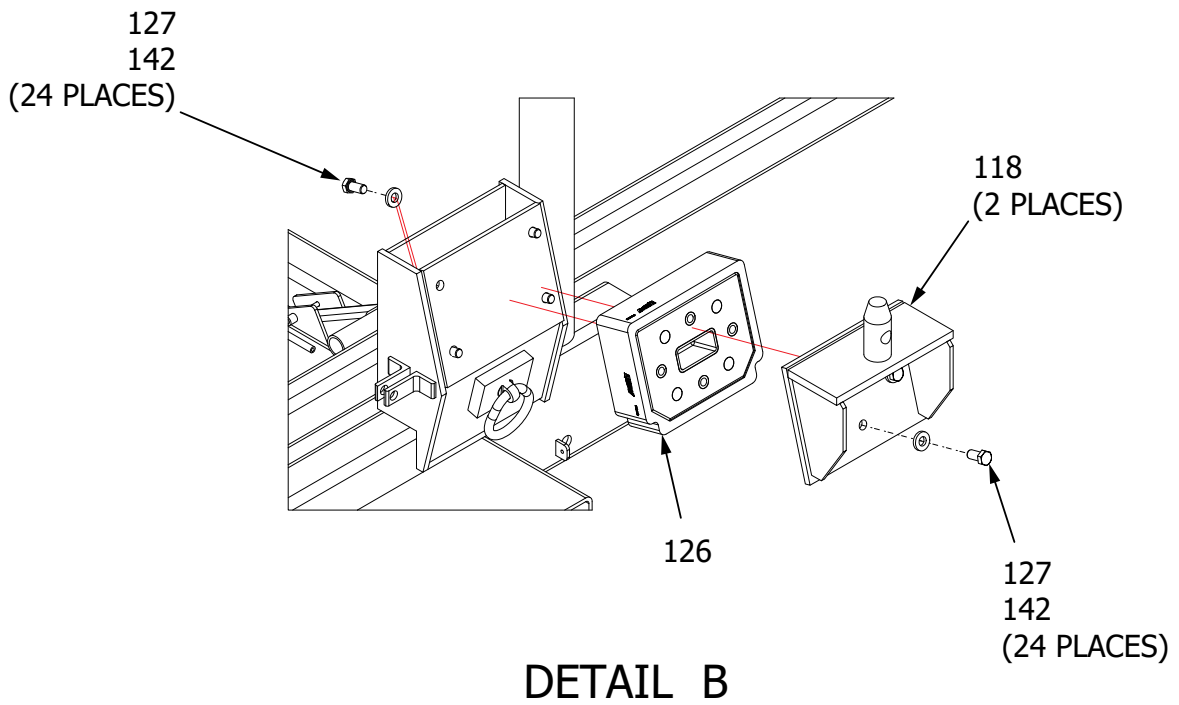
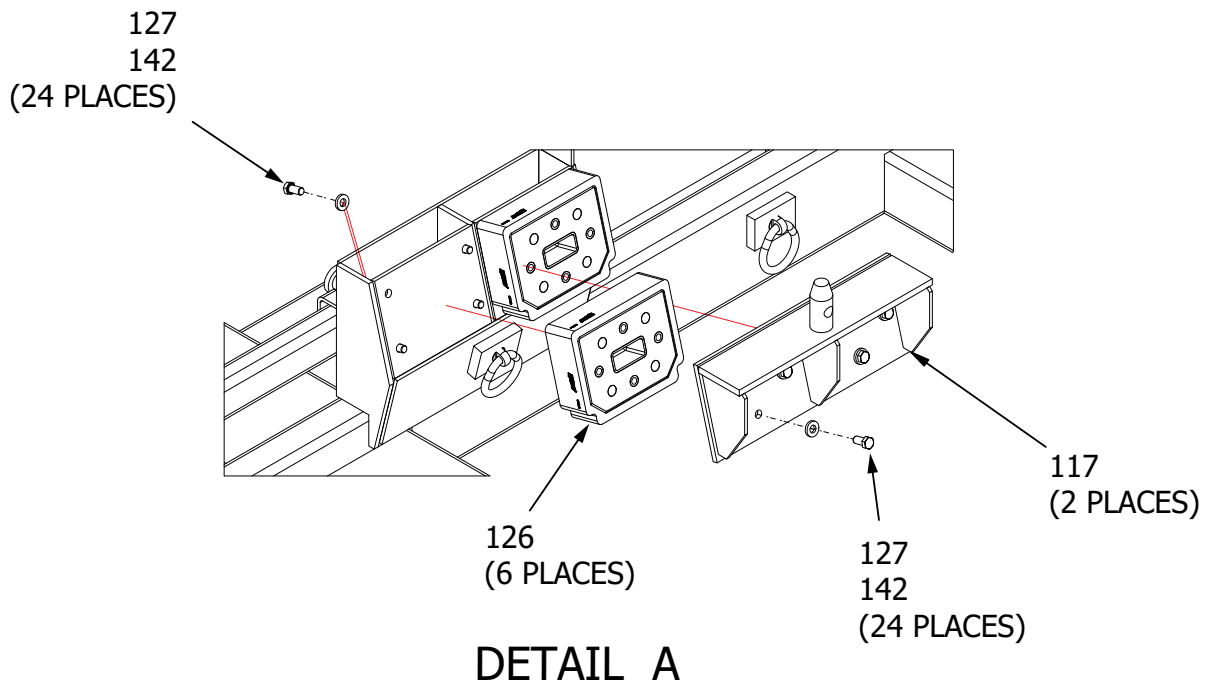
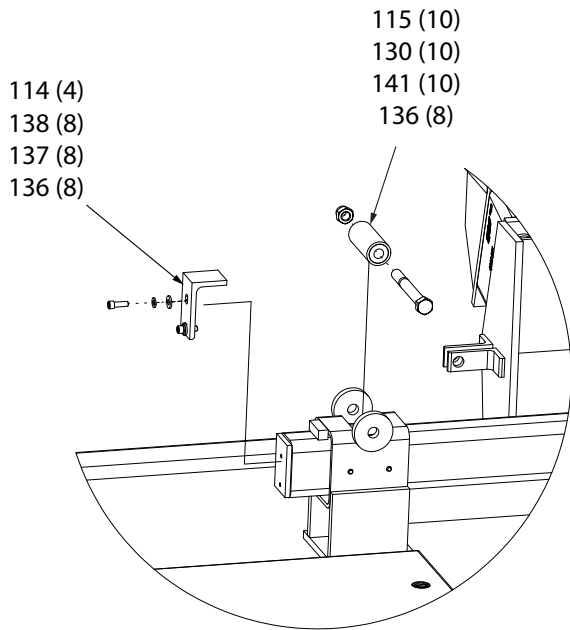
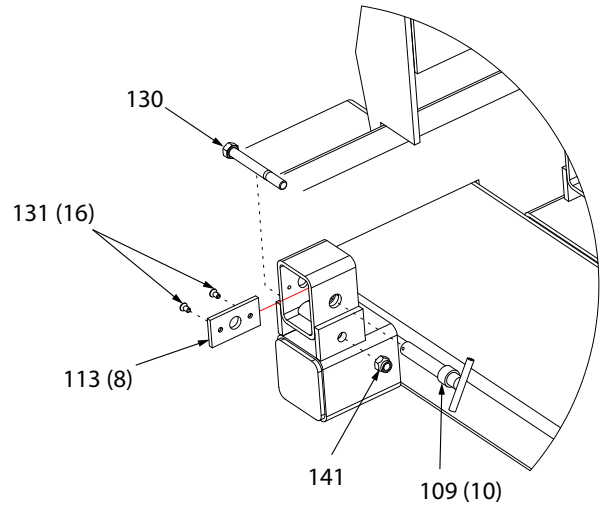


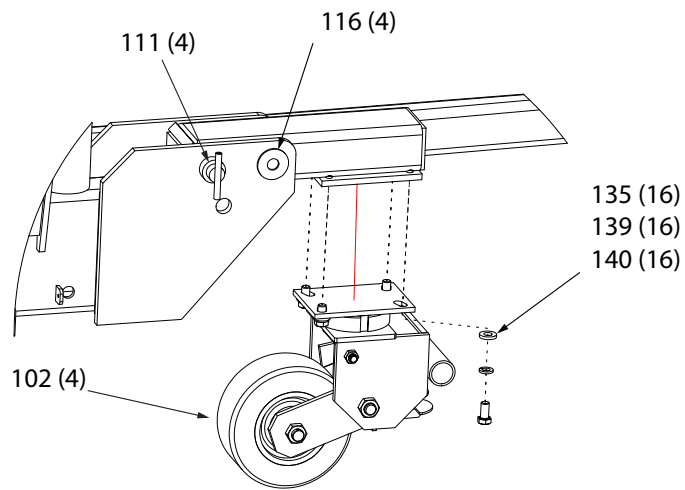
Figure 8.6-2 AGSE-E23701-S02 Shock Mount



DETAIL C



DETAIL D



DETAIL E

Figure 8.6-1 AGSE-E23701-S02 Base Assembly

IPB Figure 3 - AGSE-E23704-S04 Cradle Assembly

ITEM	PART NUMBER	QTY	PART DESCRIPTION	SPARES	RECOMMENDED REPLACEMENT
	AGSE-E23704-S04	-	Cradle Assy (Illustration Figures 8.3-1 and 8.3-2)	-	-
1	AGSE-E23750-P01	1	Cradle Weldment	-	-
2	AGSE-E23706-S03	1	AFT Post Assembly LH - (Adjustable Mount)	-	-
3	AGSE-E23706-S04	1	AFT Post Assembly RH - (Fixed Mount)	-	-
4	AGSE-E23706-P03	4	Pivot Pin	2	-
5	AGSE-E23713-S01	2	AFT Brace Assy	-	-
6	AGSE-E23719-P01	2	Cylinder Mount	-	-
7	AGSE-E23720-P01	2	Modified Lifting Cylinder Extended	-	-
8	AGSE-E23721-S01	1	Sway Brace Mount	-	-
9	AGSE-E23732-P01	2	FWD Mount Support	-	-
10	AGSE-E23732-P03	2	FWD Mount Pin	2	-
11	AM-90500-20L	4	Safety Pin Assy 1/2" DIA x 1-1/4" Grip	2	-
12	AM-90500-72T	2	Safety Pin - 1/2" DIA x 4-1/2" Grip	2	-
13	AM-90500-88L	2	Safety Pin - 1/2" DIA x 5-1/2" Grip	2	-
14	AM-90750-80T	2	Safety Pin - 3/4" DIA x 5" Grip	2	-
15	AM-91000-34T	4	Safety Pin - 1" DIA x 2-1/8" Grip	2	-
16	5395A15	1	3/8" Ratchet Wrench	-	-

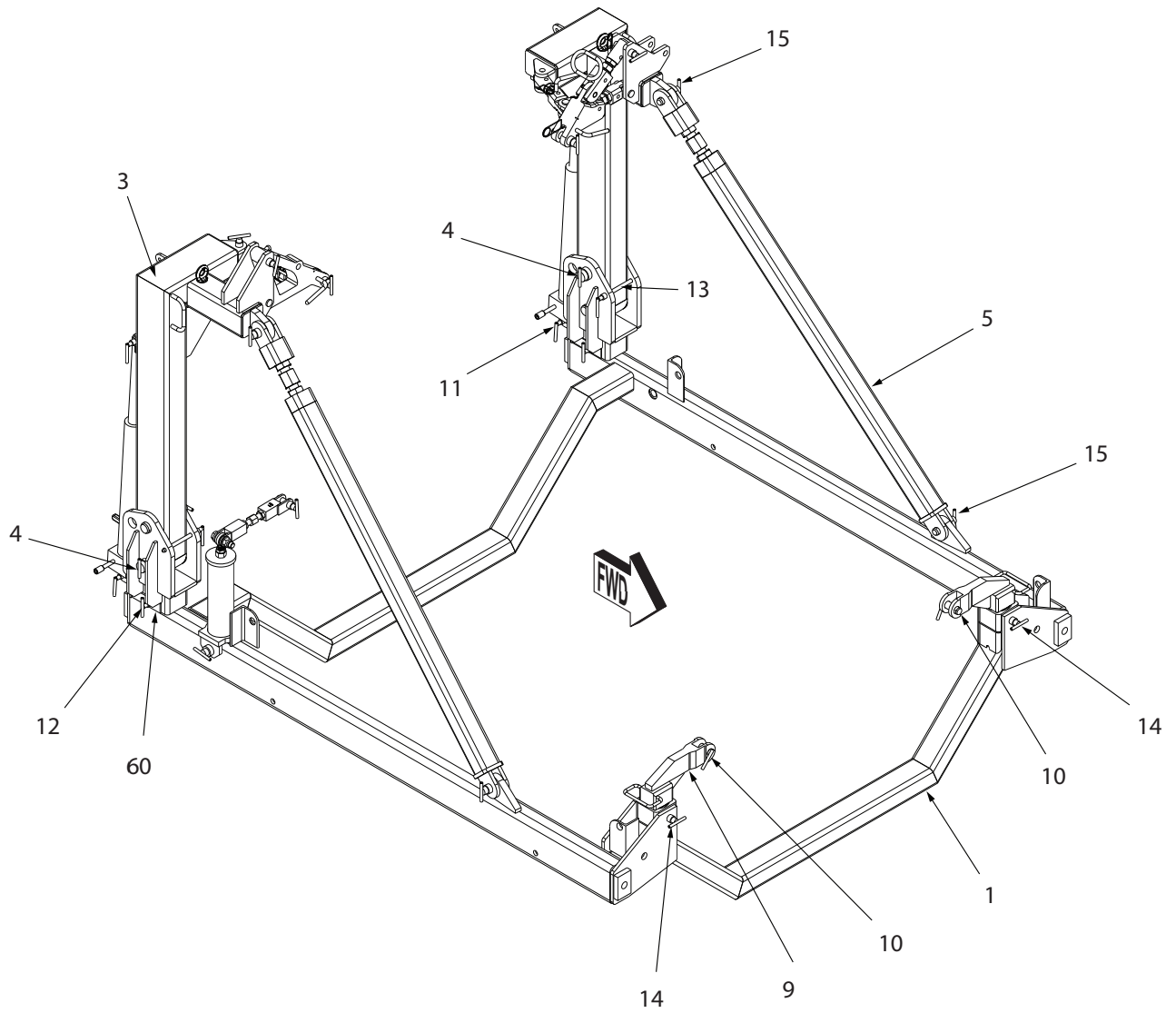


Figure 8.2-1 AGSE-E23704-S04 Cradle Assembly

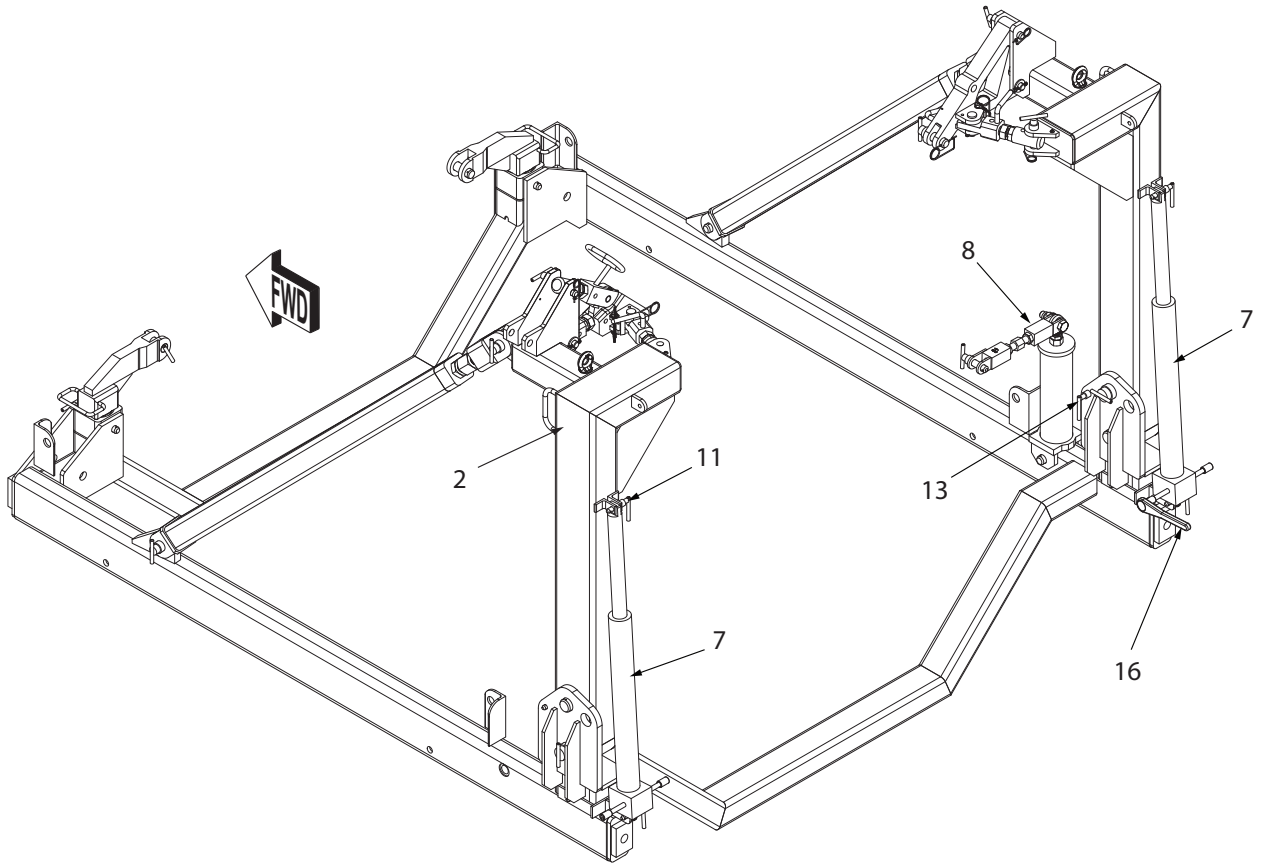


Figure 8.2-2 AGSE-E23704-S04 Cradle Assembly

IPB Figure 4 - AGSE-E23706-S03 AFT Post Assembly - LH - Adjustable Mount

ITEM	PART NUMBER	QTY	PART DESCRIPTION	SPARES	RECOMMENDED REPLACEMENT
	AGSE-E23706-S03	-	AFT Post Assembly - LH (Adjustable Mount) (Illustration Figure 8.4-1)	-	-
1	AGSE-E23706-P08	1	AFT Post Weldment - LH	-	-
2	AGSE-E23735-S01	1	Horizontal Link Assy (ADJ Mount)	-	-
3	AGSE-E23735-S02	1	AFT Adjustable Mount SubAssy	-	-
4	AGSE-E23735-S03	1	Upper Link Assy	-	-
5	AGSE-E23736-P05	1	AFT Mount Pivot Pin	-	-
6	AGSE-E23736-P06	1	Horizontal Link Pivot Pin	-	-
7	AGSE-E23736-P10	1	Upper Link Pivot Pin	-	-
8	AGSE-E23736-P12	2	Spacer	-	-
9	AM-90750-48T	1	Safety Pin - 3/4" OD x 3" Grip	1	-
10	AM-90750-52T	1	Safety Pin - 3/4" DIA x 3-1/4" Grip	1	-
11	AM-91000-40T	1	Safety Pin	1	-
12	AGSE-S00131-12A05	2	FW - SAE - 3/4" - SST 18-8	-	-
13	AGSE-S00115-04C028A07	1	BHCS - 1/4"-20 UNC x 1-3/4" Lg Alloy Stl - Zinc Plt	-	-
14	AGSE-S00135-04A17	1	Lock Washer - 1/4" - Stl - Zinc Plt	-	-
15	AGSE-S00166-188D012A05	2	Cotter Pin - 3/16" DIA x 1-1/2"- Lg ANSI B18.8.1 - S.S	-	-
16	AGSE-S00172-P02	1	Wire-Lock - Clevis Pin - 1/4" DIA 2-3/16" Usable Length - Zinc Plt	-	-
17	AGSE-S00308-04C008A05	2	Button Head Torx Screw 1/4"-20 UNC - 1/2" Lg - SS	-	-

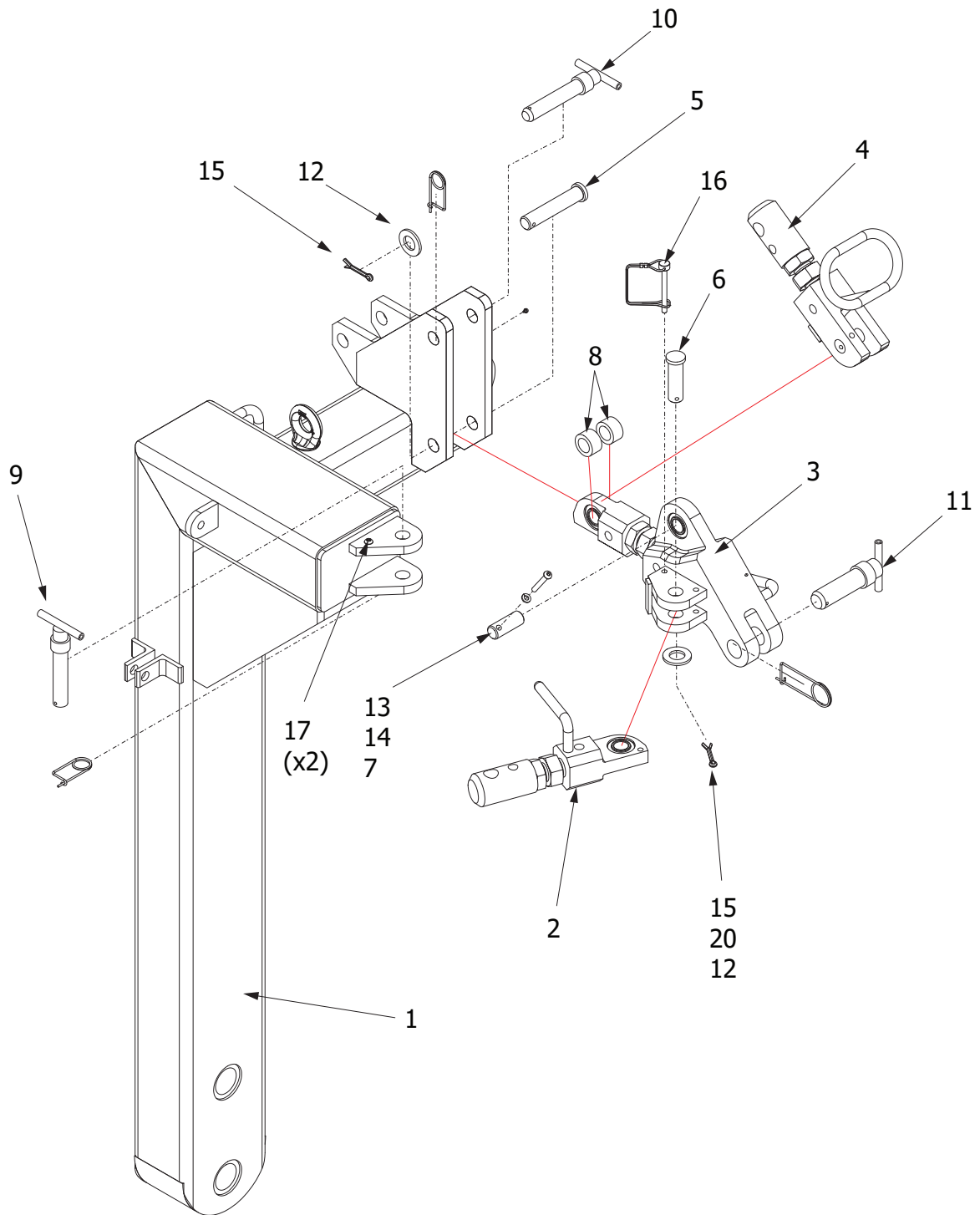


Figure 8.3-1 AGSE-E23706-S03 AFT Post Assembly - LH - (Adjustable Mount)

IPB Figure 5 - AGSE-E23706-S04 AFT Post Assembly - RH - Fixed Mount

ITEM	PART NUMBER	QTY	PART DESCRIPTION	SPARES	RECOMMENDED REPLACEMENT
	AGSE-E23706-S04	-	AFT Post Assembly - RH (Fixed Mount) (Illustration Figure 8.5-1)	-	-
1	AGSE-E23706-P09	1	AFT Post Weldment, RH	-	-
2	AGSE-E23736-P01	1	AFT Fixed Mount Weldment	-	-
3	AGSE-E23735-S05	1	Horizontal Link Assy (Fixed Mount)	-	-
4	AGSE-E23736-P05	1	AFT Mount Pivot Pin	1	-
5	AGSE-E23736-P06	1	Horizontal Link Pivot Pin	1	-
6	AM-90750-48T	1	Safety Pin - 3/4" OD x 3" Grip	1	-
7	AM-90750-52T	1	Safety Pin - 3/4" DIA x 3-1/4" Grip	1	-
8	AM-91000-32T	1	Safety Pin	1	-
9	AGSE-S00131-12A05	2	FW - SAE - 3/4 - SST 18-8	-	-
10	AGSE-S00166-188D024A05	2	Cotter Pin - 3/16" DIA x 1-1/2" Lg ANSI B18.8.1 - SS	-	-
11	AGSE-S00172-P02	1	Wire-Lock Clevis Pin 1/4" DIA x 2-3/16" Usable Length Zinc Plt	-	-
12	AGSE-S00308-04C008A05	1	Button Head Torx Screw 1/4"-20 UNC - 1/2" Lg - SS	-	-

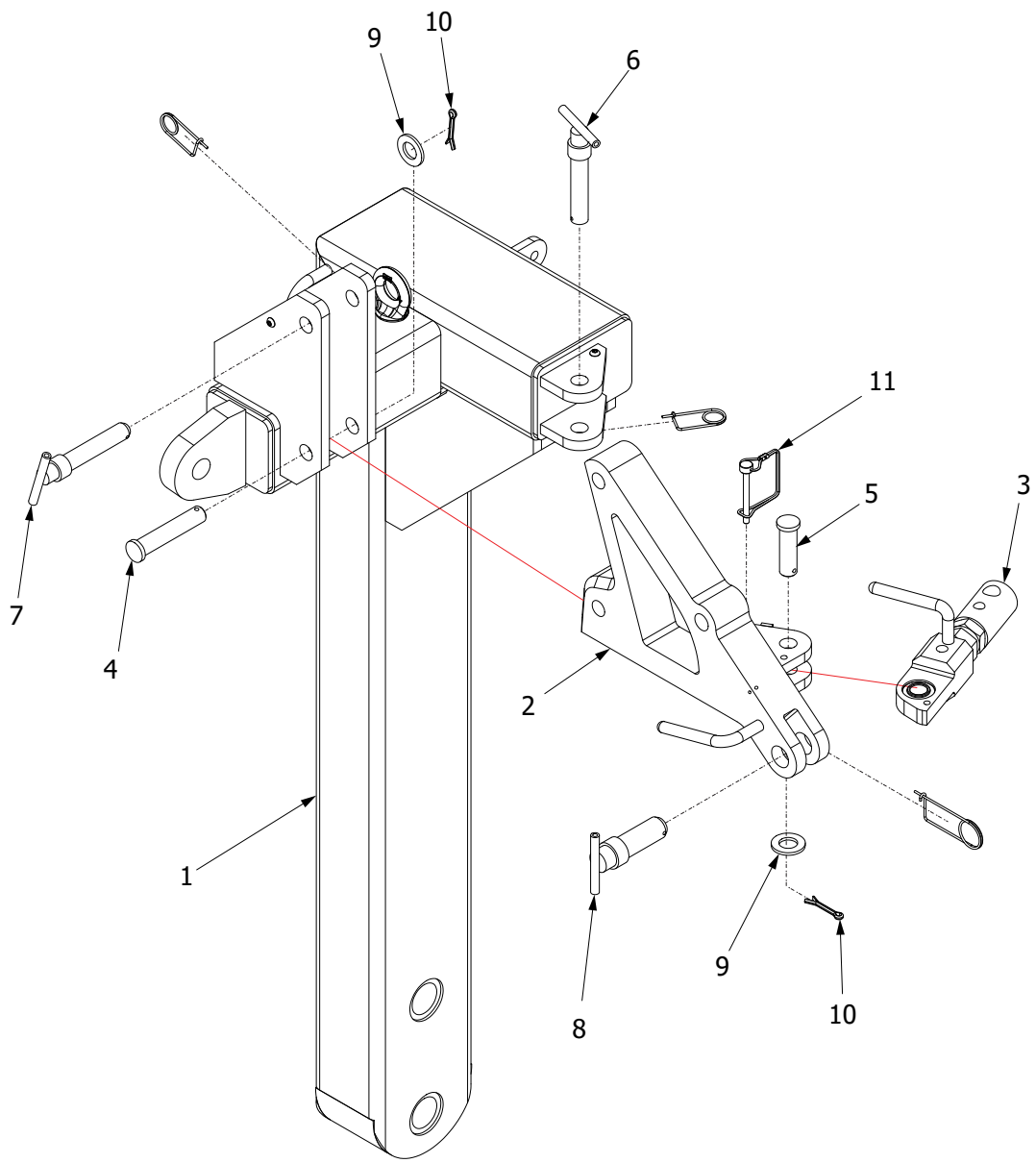


Figure 8.5-1 AGSE-E23706-S03 AFT Post Assembly - RH -(Fixed Mount)

IPB Figure 6 - AGSE-E23713-S01 Adjustable AFT Brace Assembly

ITEM	PART NUMBER	QTY	PART DESCRIPTION	SPARES	RECOMMENDED REPLACEMENT
	AGSE-E23713-S01	-	Adjustable AFT Brace Assy (Illustration Figure 8.6-1)		
1	AGSE-E23713-P01	1	AFT Brace - RH Thd	-	-
2	AGSE-E23713-P02	1	Short Brace - LH Thd	-	-
3	AGSE-E23713-P03	1	Adjusting Screw	-	-
4	Commercial	1	Hex Jam Nut - 1-1/4"-12 UNF	-	-
5	Commercial	1	Jam Nut - 1-1/4"-12 UNF - LH	-	-

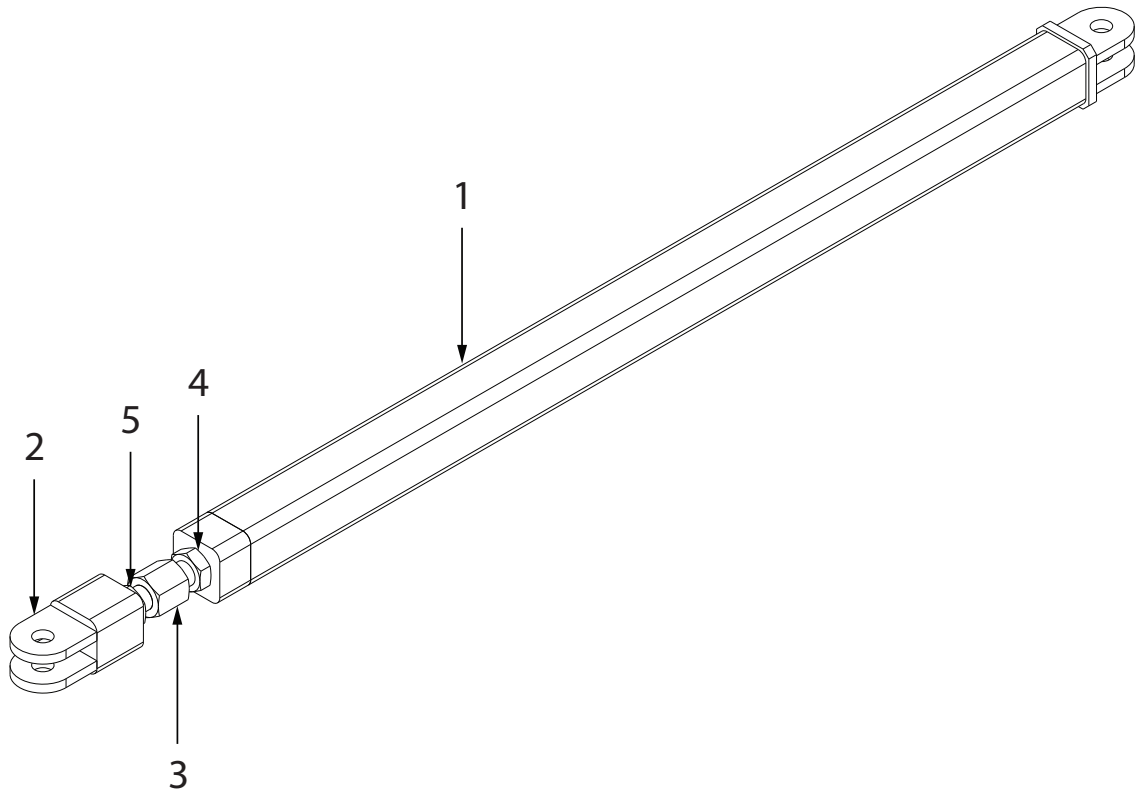


Figure 8.6-1 AGSE-E23713-S01 Adjustable AFT Brace Assembly

IPB Figure 7 - AGSE-E23721-S01 Sway Brace Mount Assembly

ITEM	PART NUMBER	QTY	PART DESCRIPTION	SPARES	RECOMMENDED REPLACEMENT
	AGSE-E23721-S01	1	Sway Brace Assy (Illustration Figure 8.7-1)		
1	AGSE-E23721-P01	1	Sway Brace Support	-	-
2	AGSE-E23721-P02	1	Sway Bar - RH	-	-
3	AGSE-E23721-P03	1	Sway Bar - LH	-	-
4	AGSE-E23721-P04	1	Adjusting Screw - 3/4-16	-	-
5	AM-90740-26T	1	Safety Pin 0.740 OD x 1-5/8" Grip	1	-
6	AM-91000-66T	1	Safety Pin - 1" OD x 4-1/8" Grip	1	-
7	HM12C	1	Rod End - 3/4" Dia. x 2-7/8" Lg HSS ZP & CRM PL	-	-
8	Commercial	1	Flat Washer - 3/4" ID	-	-
9	Commercial	1	HHCS - 3/4"-10 UNC x 3" Lg	-	-
10	Commercial	2	Hex Jam Nut - 3/4"-16 UNF	-	-
11	Commercial	1	Lock Nut - 3/4"-10 UNC	-	-
12	Commercial	1	Jam Nut - 3/4"-16 UNF-LH	-	-

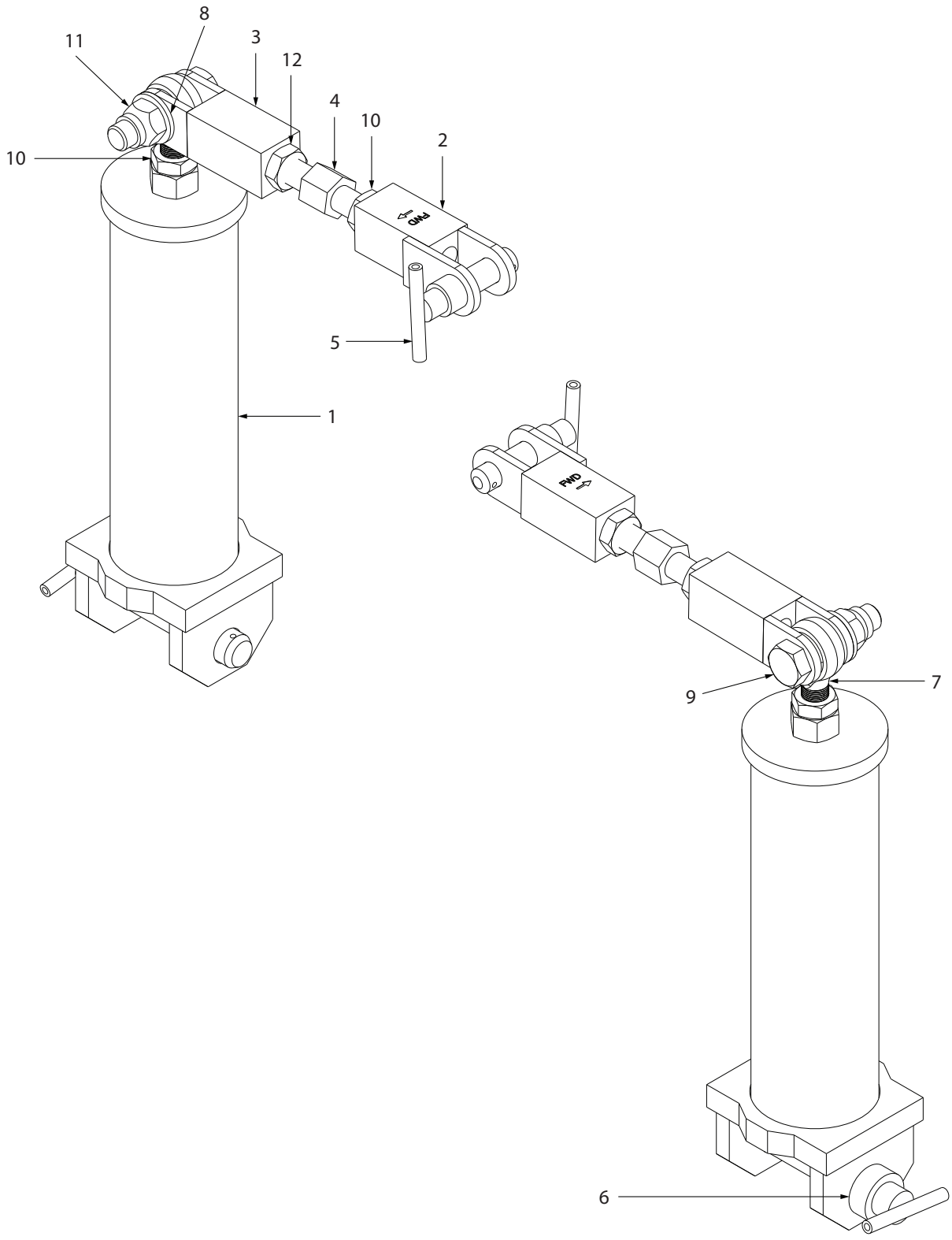


Figure 8.5-1 AGSE-E23721-S01 Sway Brace Mount

IPB Figure 8 - AGSE-E23758-S01 Rear Bumper Assembly

ITEM	PART NUMBER	QTY	PART DESCRIPTION	SPARES	RECOMMENDED REPLACEMENT
	AGSE-E23758-S01	-	AFT Bumper Assy (Illustration Figure 8.7-1)	-	-
1	AGSE-E23758-P01	1	AFT Bumper Support	-	-
2	AGSE-E23759-P03	1	Rear Bumper	-	-
3	AM-90750-68T	2	Safety Pin 3/4" Dia. x 4-1/4" Grip	2	-
4	Commercial	2	Cotter Pin - 1/8" Dia. x 1" Lg	-	-
5	Commercial	2	Flat Washer - 3/4" ID	-	-
6	AGSE-E18603-P07	2	Pivot Pin - Bumper 3/4" OD x 4-1/4" Grip	2	-

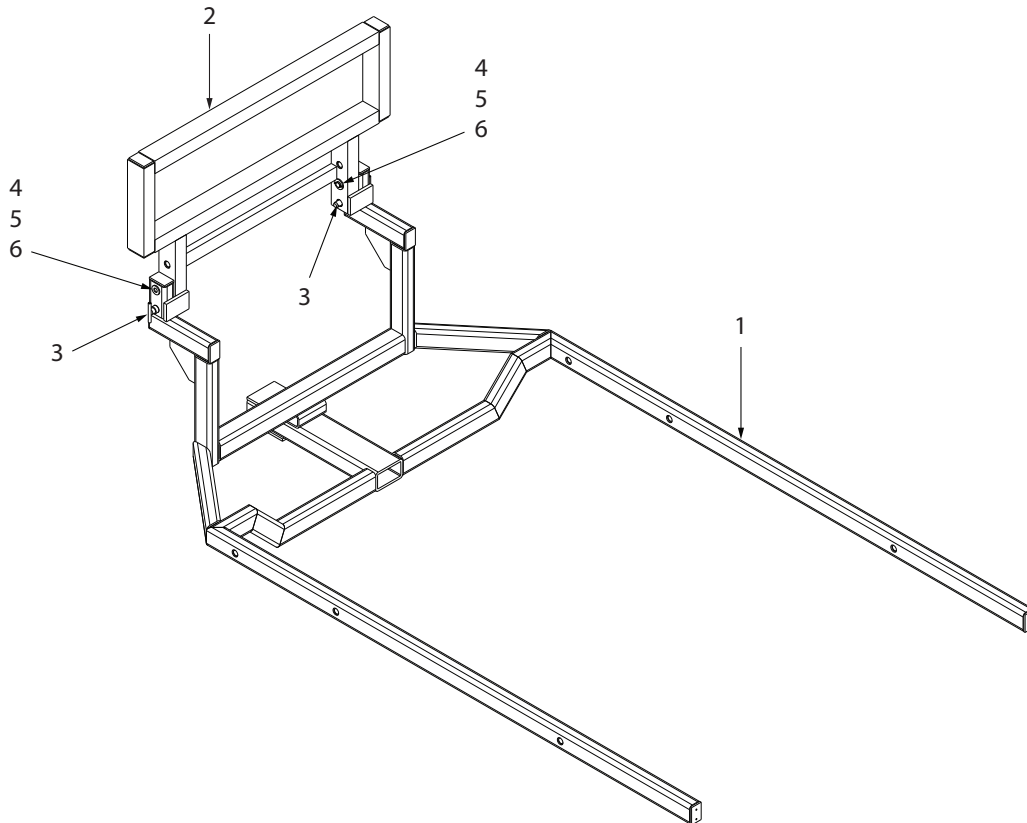


Figure 8.8-1 AGSE-E23758-S01 Rear Bumper Assembly

IPB Figure 9 - AGSE-E23758-S02 FWD Bumper Assembly

ITEM	PART NUMBER	QTY	PART DESCRIPTION	SPARES	RECOMMENDED REPLACEMENT
	AGSE-E23758-S02	-	FWD Bumper Assy (Figure 8.8-1)	-	-
3	AM-90750-68T	2	Safety Pin - 3/4" Dia. x 4" Grip	2	-
4	Commercial	4	Cotter Pin - 1/8" Dia. x 1" Lg	-	-
5	Commercial	4	Flat Washer - 3/4" ID	-	-
6	AGSE-E18603-P07	2	Pivot Pin - Bumper 3/4" OD x 4-1/4" Grip	2	-
7	AGSE-E23758-P02	1	FWD Bumper Support	-	-
8	AGSE-E23758-P03	2	FWD Bumper Support Arm	-	-
9	AGSE-E23759-P01	1	Front Bumper	-	-
10	AM-90750-48T	2	Safety Pin - 3/4" Dia. x 3" Grip	2	-
11	AGSE-E23715-P02	2	Pivot Pin - Bumper 3/4" OD x 3-1/4" Grip	2	-

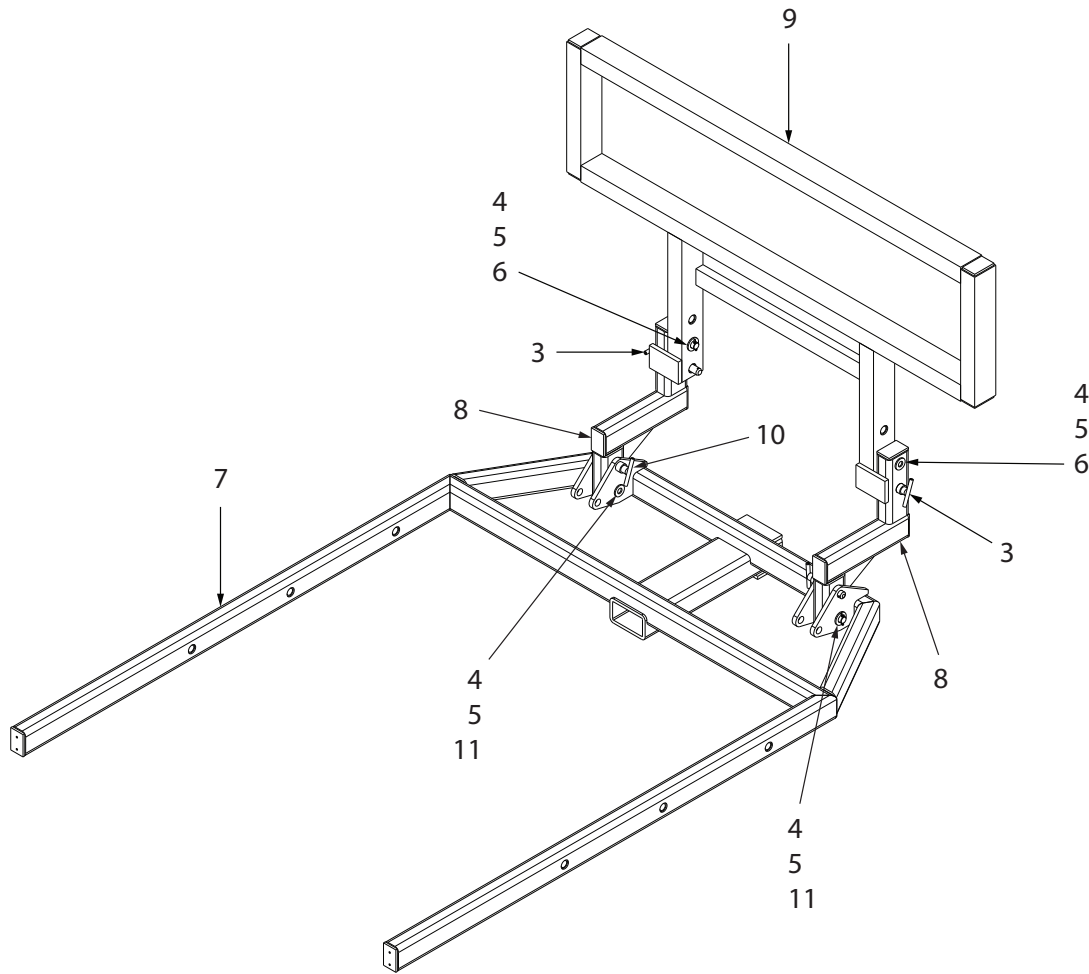


Figure 8.9-1 AGSE-E23758-S02 FWD Bumper Assembly

9.0 – Stencils, Decals, and Placards

9.1 General

Various stencils, decals, and placards are added to the equipment to provide warnings, cautions, and general information. These items should be reviewed and understood by maintenance and user personnel.

9.2 Stencils and Placards

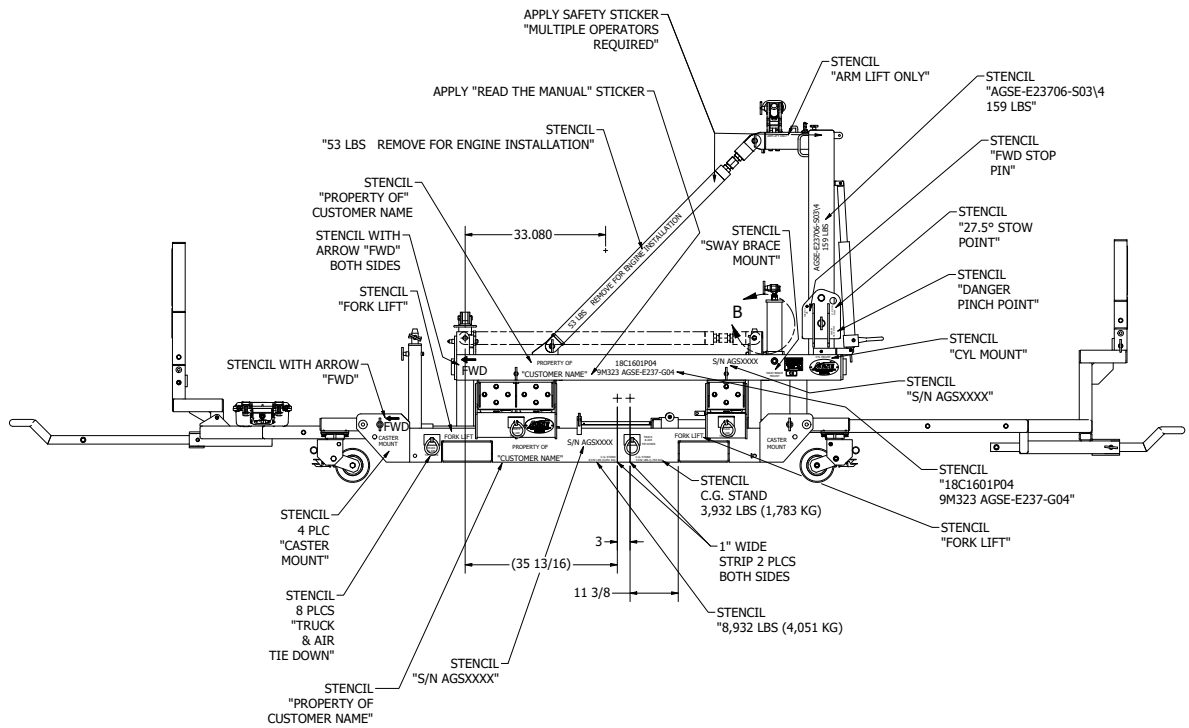
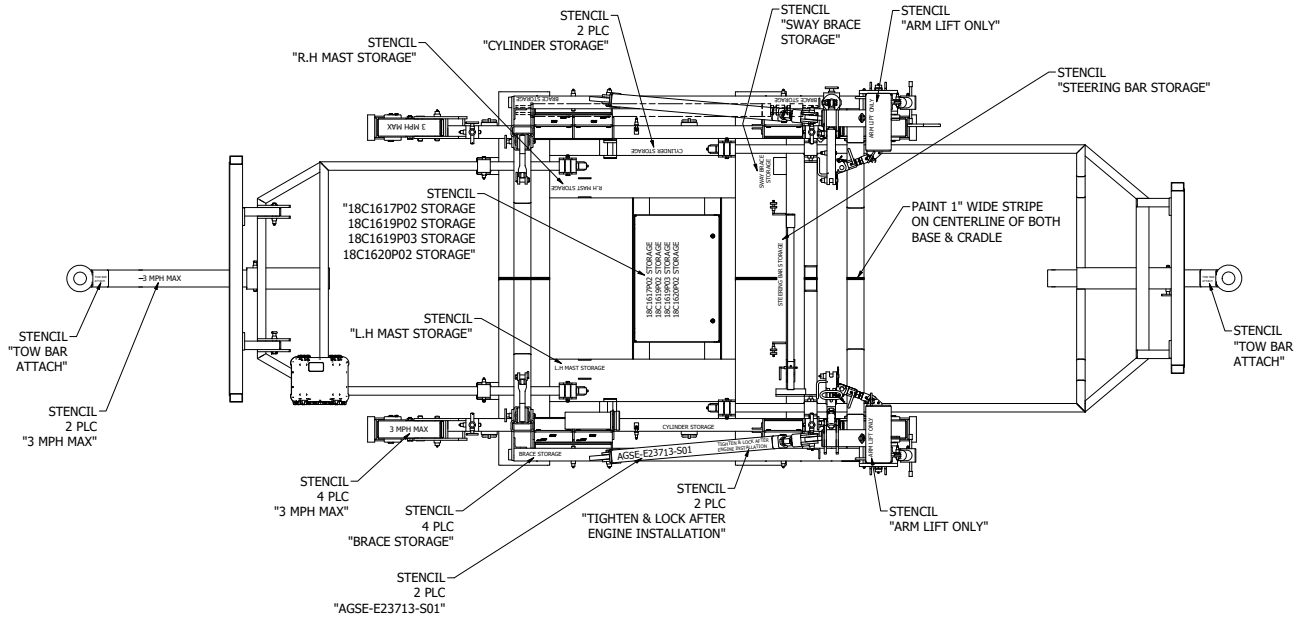
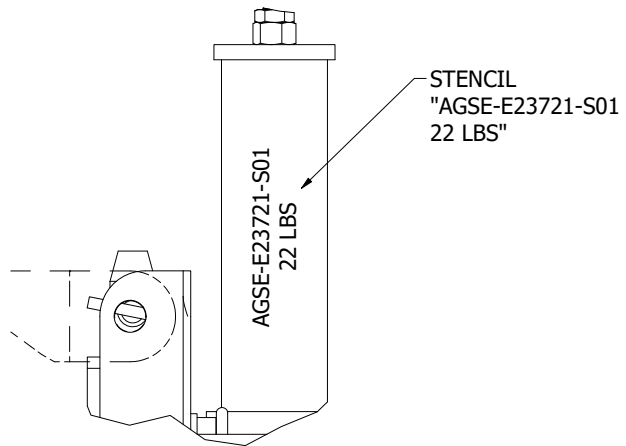


Figure 9.0-1



DETAIL A

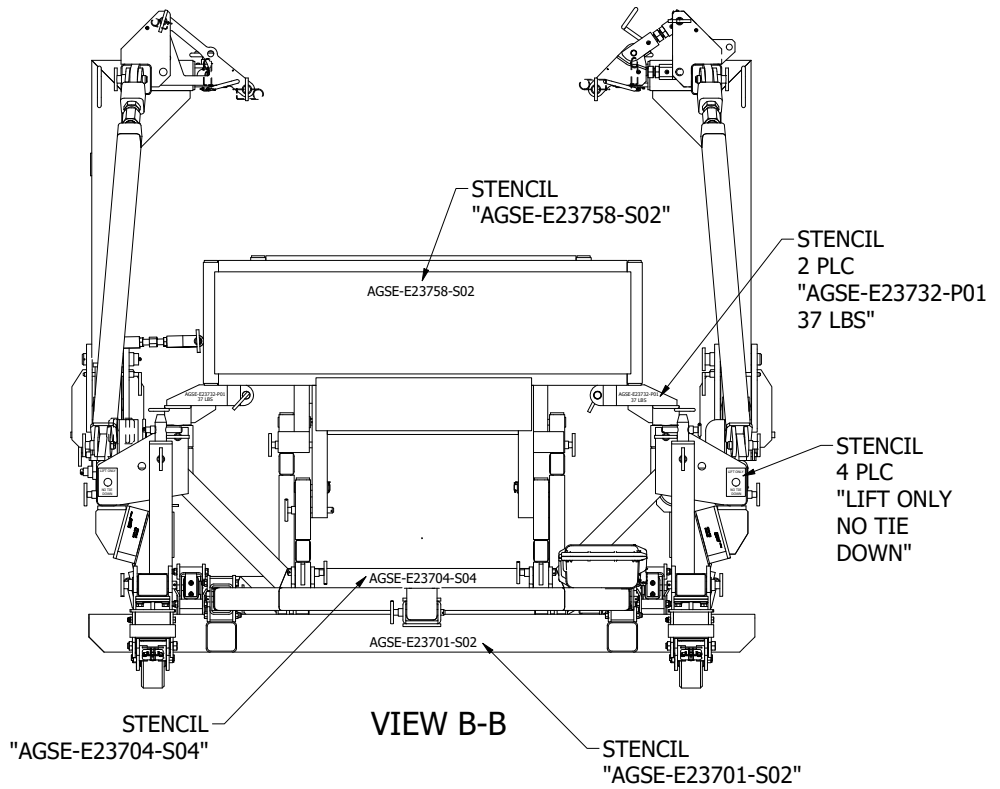


Figure 9.0-2