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AGSE-T073

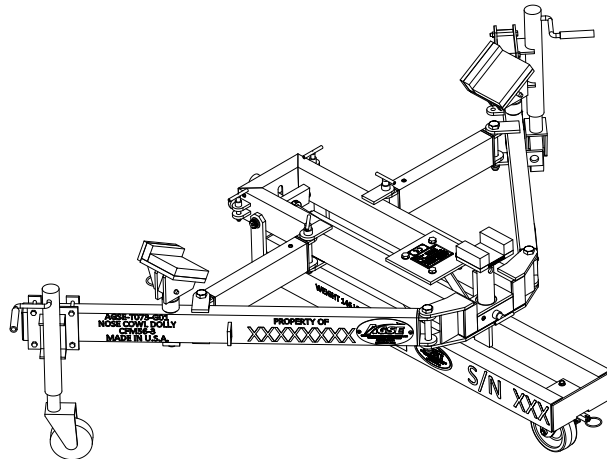
INLET COWL DOLLY

AGSE-T073-G01 (CFM56-3)

AGSE-T073-G02 (CFM56-7)

AGSE-T073-G03 (CFM56-3/-7)

Used On B737-300 thru -800 Aircraft



ORIGINAL MANUAL DATED 03/02/2012

LATEST MANUAL DATED (REVISION LEVEL).....3/18/2024 (REV C)

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
8.1	C	Updated Item 17 Part Number	3/18/2024
8.1	C	Deleted Item 27	3/18/2024
8.2	C	Updated Item 18-28 Part Number	3/18/2024
8.2	C	Added Item 29 & 30	3/18/2024
8.4	C	Updated Item 3-21 Part Number	3/18/2024

2.0 – Illustration

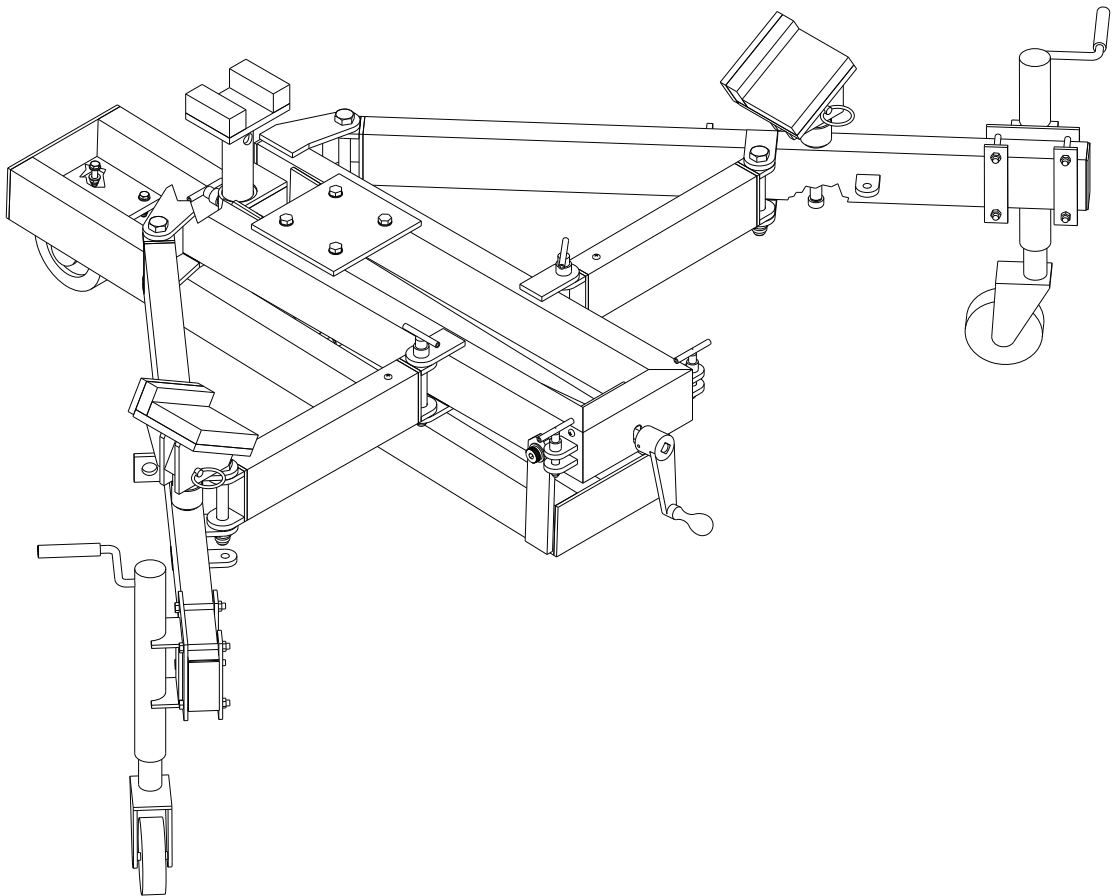


Figure 2.0-1 AGSE-T073 Nose Cowl Dolly

3.0 – Specification

3.1 General

The AGSE-T073 Inlet Cowl Dolly is designed to support the B737-300 thru –800 engine inlet cowls during installation and removal. Three configurations are available: AGSE-T073-G01 for CFM56-3, AGSE-T073-G02 for CFM56-7, and AGSE-T073-G03 for both CFM56-3 and CFM56-7.

The stand folds to minimize empty shipping volume and is shippable in the lower cargo compartment of B737 Aircraft. The inlet straps securely into place quickly and easily. Leveling jacks are included on the dolly to accommodate various engine heights.

3.2 Mobility

The dolly is supported by three caster assemblies. Each caster assembly offers a 1.5 inch wide by 6 inch diameter wheel for easy mobility and a weight capacity of 840 pounds each. Shock absorbing polyurethane tread wheels, position locks, and face brakes are standard. The dolly is intended for local positioning by hand and does not include a towbar.

3.3 Design

The AGSE-T073 consists of a welded aluminum frame with removable ground handling mounts compatible with the CFM56-3 and/or –7 Engines. The aft mount supports the inlet at the bottom, with the two forward ones supporting the inlet at a 5 and 7 O'clock position. The ground handling mounts are marked to denote application and location.

3.4 Fabrication and Finish

The dolly is fabricated from aluminum tubing and shapes. All bolted connections use A325 structural bolts or SAE Grade 5 commercial hardware. Unit is primed and painted with high-grade, Skydrol resistant enamel, with color optional. Pins and miscellaneous hardware are manufactured from corrosion resistant materials, or plated as required.

3.5 Characteristics

Note: All dimensions are with casters retracted.

	Folded (Empty)	Extended (Empty)	With Inlet
Length (IN.).....	70.0	66.0	66.0
Width (IN.).....	36.5	95.0	98.0
Height (IN.).....	26.0	26.0	94.0
Weight (Lbs.).....	146	146	400

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, this equipment should be inspected for obvious signs of abuse or shipping damage. Observed damage should require complete inspection of the affected area to ensure structural integrity is not compromised.

4.2 Cleaning and Painting

This equipment should be cleaned periodically with a soap and water solution and rinsed thoroughly.

CAUTION

Re-lubricate all grease zerk fittings after cleaning this equipment.

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

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

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

Visual inspection of the swivel locks and brakes should occur with the scheduled lubrication.

All non-painted machined surfaces should be coated with a light grade oil spray every 90 days. Spray with rust inhibitor LPS-3 (MIL-C-16173D, Gr. 2) or equivalent.

4.4 Scheduled Inspection

CAUTION

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

Annual inspections of machined surfaces, pins, fasteners, and structure are recommended. The machined surfaces (wheels, axles, pivots) 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 structure is to be visually inspected for damage, weld cracks, or corrosion.

5.0 – Operation

5.1 Engine Inlet Installation into Dolly

- 1) Inspect dolly for obvious damage.
- 2) Erect dolly, and install the mount pads for the applicable engine.
- 3) Lower the dolly fully by retracting the jacks on the forward casters and lower the aft mount.
- 4) Position the dolly forward of the inlet and open the fan cowls.
- 5) Move the dolly aftward until the step on the aft mount (for the CFM56-7) or forward mount (on the CFM56-3) aligns with the step on the inlet.
- 6) Raise the dolly by cranking the center handle to raise the aft mount and the jacks to raise the forward mounts.
- 7) Wrap the nylon strap around the inlet and secure and tighten it.

CAUTION

Do not remove the inlet without the retaining strap being attached.

- 8) Remove the inlet retaining bolts in accordance with the applicable Boeing procedure.
- 9) Once the retaining bolts are removed, move the inlet and dolly away from the engine.

6.0 – SAFETY

6.1 Stress

Design stress safety factors are compliant with applicable commercial standards. The equipment is provided with safety devices and guards to properly operate the equipment.

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-T073 Inlet Cowl Dolly is a commercial product designed specifically only to support the B737-300 thru -800 engine inlet cowls during installation and removal. 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 AGSE-T073 Inlet Cowl Dolly 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-T073 Inlet Cowl Dolly can be with medium risk of injury and is considered safe to use under supervision. Low residual risks include potential pinch points during positioning of the equipment.

Equipment detailed in this manual has undergone stringent safety analyzing using methods and standards set forth withi 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.



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: Inlet Cowl Dolly, CFM56-7, B737

Model: AGSE-T073

Part Number: AGSE-T073-G01

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:

- 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
Advanced Ground Systems Engineering
Pct Ana Maria Bastos, N20
A-dos-Cunhados, Portugal 2560-005
+351-96-520-4851

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: Inlet Cowl Dolly, CFM56-7, B737

Model: AGSE-T073

Part Number: AGSE-T073-G02

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:

- 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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+351-96-520-4851



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: Inlet Cowl Dolly, CFM56-7, B737

Model: AGSE-T073

Part Number: AGSE-T073-G03

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:

- 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
Advanced Ground Systems Engineering
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A-dos-Cunhados, Portugal 2560-005
+351-96-520-4851

7.0 – Statement of 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,” and “DESCRIPTION.”

NOTICE

“ITEM” numbers are for reference to the Parts List only. Do not order replacement parts by “ITEM” number. Order parts by “PART NUMBER” only.

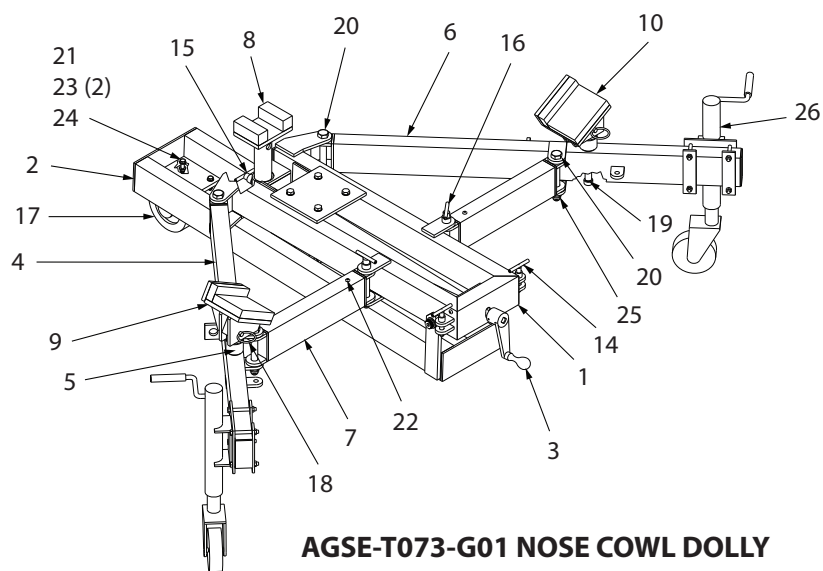
8.2 Illustrated Parts Breakdown

IPB Figure 1 - AGSE-T073-G01/G02/G03 Nose Cowl Dolly Assembly

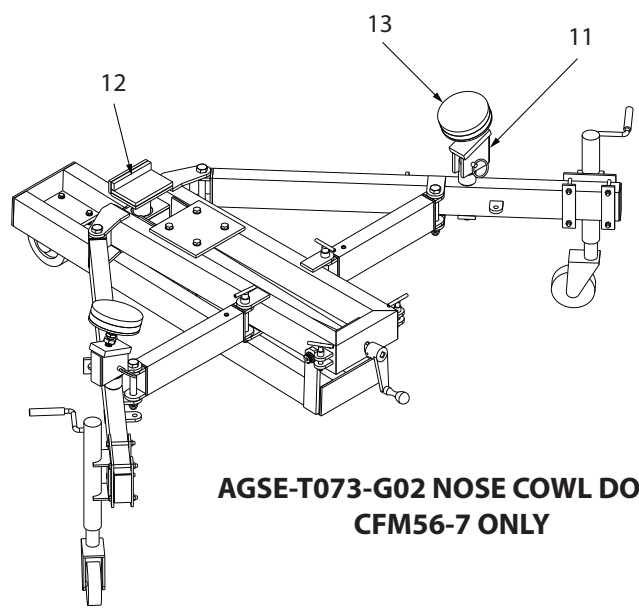
ITEM	PART NUMBER	QTY	PART DESCRIPTION
	AGSE-T073-G01	-	Nose Cowl Dolly Assy (CFM56-3 Only) (Figure 8.1-1)
	AGSE-T073-G02	-	Nose Cowl Dolly Assy (CFM56-7 Only) (Figure 8.1-1)
	AGSE-T073-G03	-	Nose Cowl Dolly Assy (CFM56-3 & CFM56-7) (Figure 8.1-1)
1	AGSE-T07301-P01	1	Upper Frame Weldment
2	AGSE-T07301-P02	1	Lower Frame Weldment
3	AM-1940-KIT	1	Jack Replacement Kit (See IPB Figure 2 for Details)
4	AM-1940-215	1	Arm Weldment
5	AM-1940-219	2	FWD Mount Support
6	AM-1940-222	1	Arm Weldment
7	AM-1940-223	2	Brace Weldment
8	AM-1940-301	1	AFT Support (Used on AGSE-T073-G01 and G03)
9	AM-1940-305	1	FWD Support - RH (Used on AGSE-T073-G01 and G03)
10	AM-1940-306	1	FWD Support - LH (Used on AGSE-T073-G01 and G03)
11	AM-1940-326	2	FWD Support Assy - C/O -327 Thru -329 (Used on AGSE-T073-G02 and G03)
12	AM-1940-330	1	AFT Support Assy - C/O -331 Thru -335 (Used on AGSE-T073-G02 and G03)
13	AM-1940-336	2	Rest Pad Assy (Used on AGSE-T073-G02 and G03)
14	AM-90500-26T	2	T-Handle Safety Pin - 1/2" Dia x 1-5/8" Grip
15	AM-90750-50T	1	T-Handle Safety Pin - 3/4" Dia x 3-1/8" Grip
16	AM-90750-80T	2	T-Handle Safety Pin - 3/4" Dia x 5" Grip
17	AGSE-S00310-P58	1	Swivel Caster

IPB Figure 1 - AGSE-T073-G01/G02/G03 Nose Cowl Dolly Assembly (Continued)

ITEM	PART NUMBER	QTY	PART DESCRIPTION
18	AGSE-S00200-P08	2	Ball Lock Pin
19	AGSE-S00126-10C12S72A05	2	Shoulder Screw
20	AGSE-S00104-12C096A01	4	Screw, Hex Head
21	AGSE-S00104-06C024A01	4	Screw, Hex Head
22	AGSE-S00116-04C008A17	5	Screw, Round Head
23	AGSE-S00131-06A17	8	Washer, Flat
24	AGSE-S00150-06CA01	4	Nut, Hex
25	AGSE-S00153-12CA01	4	Nut, Locking
26	AGSE-S00313-P04	2	Swivel Jack with Caster
28	AGSE-S00316-P04	1	Tie Down
29	S00104-06C024A01	4	Screw, Hex Head
30	S00135-06A17	2	Washer, Locking



**AGSE-T073-G01 NOSE COWL DOLLY
CFM56-3 ONLY**



**AGSE-T073-G02 NOSE COWL DOLLY
CFM56-7 ONLY**

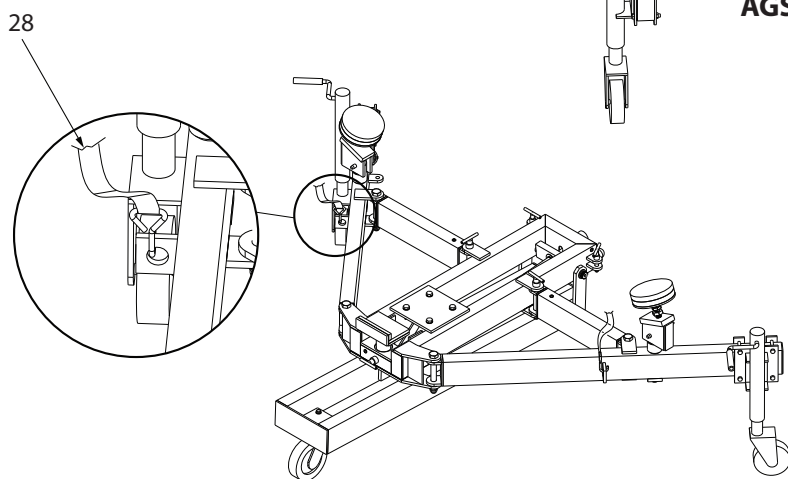
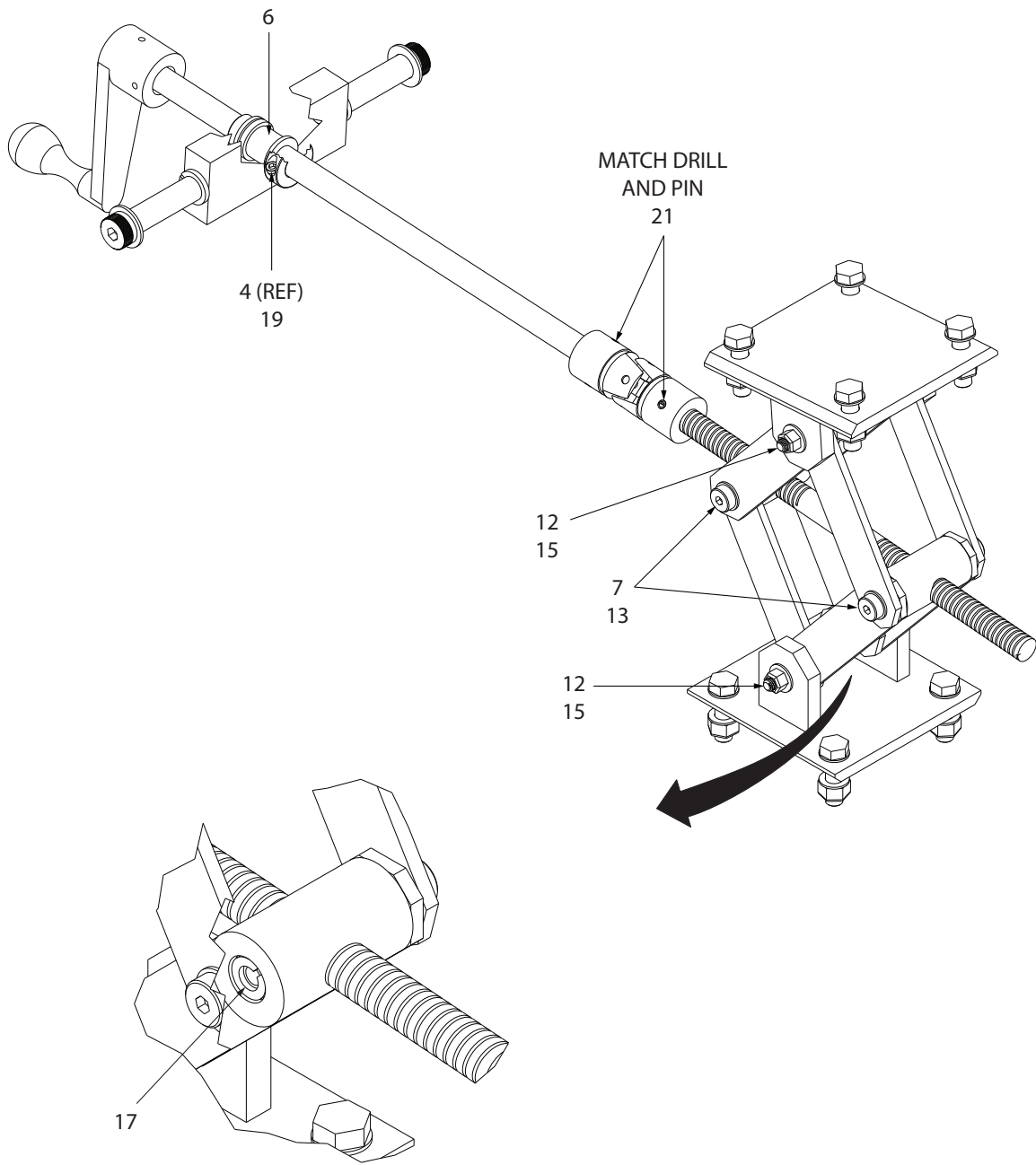


Figure 8.1-1

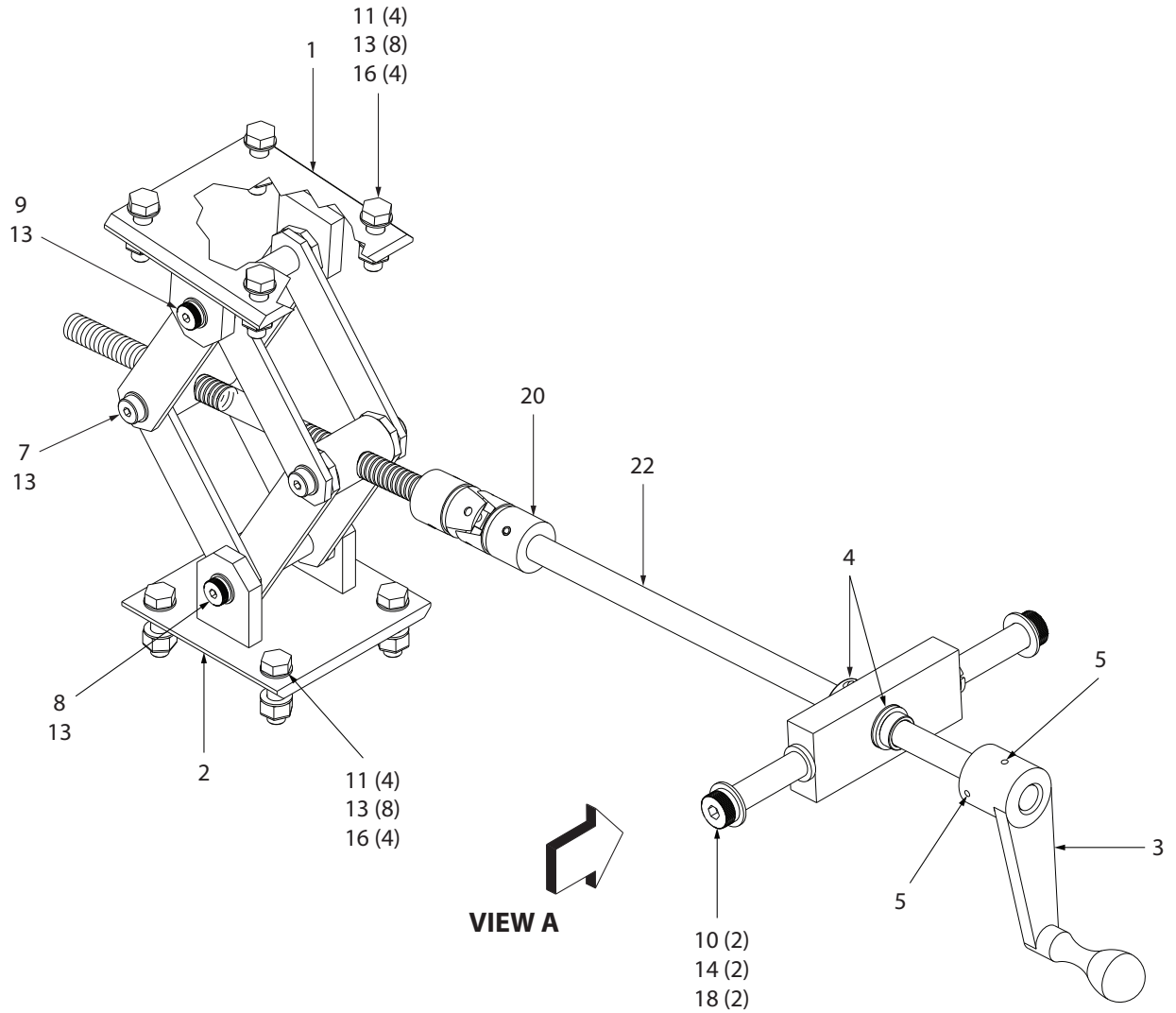
IPB Figure 2 - AM-1940-KIT-S01 Jack Replacement Kit

ITEM	PART NUMBER	QTY	PART DESCRIPTION
	AM-1940-KIT-S01	-	Jack Replacement Kit (Figure 8.2-1)
1	AM-1940-KIT-P01	1	Pivot Weldment - Upper - Zinc Plt
2	AM-1940-KIT-P02	1	Pivot Weldment - Lower - Zinc Plt
3	AGSE-S00211-P07	1	Crank Handle
4	AGSE-S00370-P03	2	Thrust Bearing
5	AGSE-S00170-188D024A21	2	Slotted Spring Pin
6	AGSE-S00232-P01	1	Flanged Sleeve Bearing
7	AGSE-S00126-06C08S10A05	4	Shoulder Screw
8	AGSE-S00126-06C08S68A05	1	Shoulder Screw
9	AGSE-S00126-06C08S76A05	1	Shoulder Screw
10	AGSE-S00126-10C12S44A05	2	Shoulder Screw
11	AGSE-S00104-08C028A03	8	Screw, Hex Head
12	AGSE-S00131-06A17	2	Washer, Flat
13	AGSE-S00131-08A17	22	Washer, Flat
14	AGSE-S00131-12A17	2	Washer, Flat
15	AGSE-S00153-06CA01	2	Nut, Locking
16	AGSE-S00153-08CA01	8	Nut, Locking
17	AGSE-S00135-06A17	4	Washer, Locking
18	AGSE-S00135-10A17	2	Washer, Locking
19	AGSE-S00385-P02	1	Clamping Collar
20	AGSE-S00236-P01	1	U-Joint
21	AGSE-S00170-250D024A05	2	Slotted Spring Pin
22	AM-1940-KIT-P03	1	Extension Bar



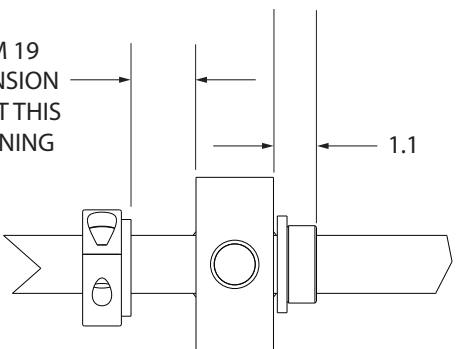
TYPICAL 4 PLACES

Figure 8.2-1



VIEW A

LOWER JACK TO
 LOWEST POINT
 THEN TIGHTEN ITEM 19
 IN PLACE. THIS DIMENSION
 SHOULD BE AT 0.00 AT THIS
 POINT WHEN TIGHTENING



VIEW A

Figure 8.2-2

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.

~ **This Section Not Applicable** ~

10.0 – Recommended Spares

10.1 Critical Items

AGSE defines “critical” items as those items, if broken or missing, that would render the equipment inoperable or severely impair equipment operation. Since most of these items are also long leads, it is AGSE’s recommendation that such items be identified, purchased, and stocked by the customer. In the remote event of “critical” item failure, the equipment can be quickly repaired and placed back in service with minimal down time.

AGSE does not typically stock all components used with the equipment, so immediate shipment of “critical” items may not always be possible. AGSE will respond to customer requests for quotation on any spare parts, and expedite orders for spare parts as required. The customer should never assume immediate delivery is always possible.

It is the responsibility of the operator of the equipment to review the recommended spares list and balance costs against equipment down-time. The list can be adjusted by the operator based on the actual service life of components experienced during equipment usage.

~ **This Section Not Applicable** ~