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INSTRUCTIONS

for

CONTINUED AIRWORTHINESS

for

CARGO MIRROR KIT

206-175-203

206-175-303

STC. SH1385SO

for

**BELL HELICOPTER TEXTRON MODEL 206A, 206B,
206L, 206L-1, 206L-3, 206L-4 HELICOPTERS**

Report No. AA-00121

Revision A

January 15, 2010



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LOG OF REVISIONS

Date	Revision	Description	Affected Pages	Approved / Date	Accepted / Date
10/03/00	NR	Original Release	All	—	—
01/15/10	A	Revised document to current format; corrected document formatting and typographical errors	All	 15 JAN 14 2010	 1-15-10
		Removed daily/preflight inspection requirements; revised 300 hour / annual inspection instructions (Section 4.1)	8		
		Added conditional inspection requirements (Section 4.2)	8		
		Revised adjustment instructions to reflect design changes (Section 4.5)	8 – 9		
		Revised removal and replacement instructions to reflect design changes (Section 6.0)	11 – 12		
		Revised parts breakdown tables to reflect design changes and incorporate current document formatting (Table 3 thru Table 9)	13 – 15		
		Revised Figure 1 thru Figure 3 to reflect design changes	16 – 18		
		Revised Figure 3 to incorporate current document formatting	19		

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1.0 INTRODUCTION

These instructions provide the information necessary to inspect and maintain the **AERONAUTICAL ACCESSORIES, INC. (AAI) CARGO MIRROR KIT (206-175-203 / 206-175-303)** on Bell Helicopter Textron model 206A, 206B, 206L, 206L-1, 206L-3, 206L-4 helicopters, installed in accordance with STC No. SH1385SO.

1.1 DISTRIBUTION

These instructions are provided with each Cargo Mirror Kit. Any airworthiness or flight safety revisions will be immediately made available to all affected Cargo Mirror Kit owners.

1.2 REVISION

A Log of Revision section is included in these instructions and will be utilized to document all changes. Change recommendations should be submitted to:

Aeronautical Accessories Inc.

P.O. Box 3689

Bristol, TN 37625-3689

Email: techsupport@aero-access.com

2.0 DESCRIPTION

The Aeronautical Accessories, Inc. Cargo Mirror Kit provides an extra measure of safety during external load operations. The Cargo Mirror Kit allows the pilot to see the hook and load for accurate positioning during hook-up and release. The Cargo Mirror stows for cruise flight and is easily adjusted from inside the cockpit using a friction-lock positioning handle.

3.0 CONTROL, OPERATION INFORMATION

1. Rotate T-Handle counter-clockwise to unlock and pull aft to deploy/extend Mirror.
2. Push T-Handle in to retract mirror and rotate T-Handle clockwise to lock.

4.0 MAINTENANCE INSTRUCTIONS

4.1 300 HOUR / ANNUAL INSPECTION

The Cargo Mirror Kit shall receive a 300 Hour / Annual (whichever comes first) Inspection consisting of the following items.

NOTE

Removal of Cargo Mirror from helicopter is not required for inspection. Ensure the damage limits in Table 1 are not exceeded. Replace parts as required. If any damage is noted during the Daily / Preflight Inspection, refer to Section 4.3 Repair or Section 5.0 Troubleshooting Information.

1. Inspect Support Assembly with Mirror for nicks, scratches, dents, corrosion, cracks or broken glass.
2. Inspect Cable Support Bracket for nicks, scratches, dents, and corrosion.

NOTE

The indications of corrosion are 1) corrosion deposits (a white or gray powder on aluminum or rust colored deposits on steel), 2) pits in aluminum or steel surfaces, 3) blisters, bulging or flaking of protective coatings.

3. Check the torque value on the Control Cable Connector Assembly Nut and adjust as required to 15 in-lb plus nut drag.
4. Inspect attachment fasteners for security.
5. Rotate Control Cable T-Handle counter-clockwise to unlock and verify proper operation and deployment/extension of the mirror.
6. Push Control Cable T-Handle in to retract mirror and rotate T-Handle clockwise to lock.
7. Utilize the Inspection Record provided in Appendix A to document Inspection completion.

TABLE 1. DAMAGE AND REPAIR LIMITS

Component	Maximum Allowable Damage And Repair Limits (Damage and corrosion may be repaired as noted in Section 4.3 Repair, if it does not exceed these limits.)	
	Scratches / Nicks / Dents and Corrosion	Cracks
Mirror Support Rod	To a depth of .025"	None
Mirror Support	To a depth of .010"	None
Mirror Glass	N/A	None

4.2 CONDITIONAL INSPECTIONS

A conditional inspection does not occur at a specified time. It is caused by known or suspected unusual events, malfunctions, or defects. The Cargo Mirror Kit shall receive a conditional inspection in cases of known or suspected rotor strikes, hard landings, or lightning strikes.

1. Complete the 300 Hour / Annual Inspection detailed in Section 4.1.

4.3 REPAIR

Repair scratches, nicks, dents and corrosion as follows:

1. Lightly polish the affected area using Scotch-Brite pads. Ensure the limits presented in Table 1 are not exceeded. Take care to remove as little of the component protective coatings as possible.
2. For aluminum components, after corrosion or damage repair: Clean repaired area with isopropyl alcohol, brush Alodine bare aluminum areas per MIL-DTL-5541 or equivalent, and paint area to match existing finish.
3. For steel components, after corrosion or damage repair: Prime with an epoxy polyamide primer and paint area to match existing finish.

4.4 CLEANING REQUIREMENTS

Any dirt, sand or debris should be cleaned from Cargo Mirror using a mild, non-abrasive soap or glass cleaner/lens cleaner for the mirror surface. Wipe surfaces dry with non-abrasive cloth or paper before cleaning agent evaporates.

4.5 ADJUSTMENTS

Adjust mirror controls as follows:

1. In cockpit, rotate T-Handle counter-clockwise to unlock and pull aft to deploy/extend mirror.
2. Rotate mirror to a neutral position in reference to the Ball Stud in mirror.
3. Push T-Handle forward and rotate clockwise to lock.
4. At chin bubble, loosen the Control Cable Connector Assembly nut and adjust the position of the mirror so it is positioned at least 1/8" away from the chin bubble per Figure 3. Remove slack from the Control Cable wire and temporarily tighten the Connector Assembly nut.
5. In cockpit, rotate T-Handle counter-clockwise to unlock and pull aft to deploy/extend Mirror. Check and, if necessary, at chin bubble adjust mirror on Ball Stud for desired rear/lower view.

6. Push T-Handle in to retract mirror and rotate clockwise to lock.
7. At chin bubble, recheck mirror to chin bubble clearance and if necessary readjust the Control Cable inner wire connection. Torque the Control Cable Connector Assembly nut to 15 in-lb plus nut drag.

CAUTION

Ensure there is no contact between the chin bubble and mirror.

NOTE

If slight mirror vibration occurs in flight in the stowed position, re-adjust the mirror away from the chin bubble to increase protrusion into airflow.

8. When desired adjustment position is obtained, curl any excess control wire down and aft to prevent personnel injury. Leave sufficient wire length to allow future removal and readjustment.

5.0 TROUBLESHOOTING INFORMATION

(See Figures 1 thru 4.)

TABLE 2. TROUBLESHOOTING

Problem	Probable Cause	Remedy
Mirror is loose or vibrates	Fastener loose/missing	Check fastening hardware for security
	Mirror loose on Ball Stud	Tighten screws adjacent to the Ball Stud until the desired amount of friction is achieved
	Control Cable Connector Assembly loose	Check torque value on the Control Cable Connector Assembly nut. Adjust as required (15 in-lb plus nut drag)
T-Handle will not lock	Failure of internal locking mechanism	Replace Control Cable
Mirror is difficult to deploy / extend	Support Assembly requires lubrication	Lubricate with light lubricant such as WD-40

6.0 REMOVAL AND REPLACEMENT INFORMATION

(Refer to Tables 3 thru 9 and Figures 1 thru 4 for part identification)

6.1 REMOVAL – CARGO MIRROR KIT

(Refer to Figures 1 thru 4 as applicable.)

1. Disconnect Control Cable from the mirror Connector Fitting Assembly.
2. Remove the Support Assembly with Mirror (206-170-548 / 206-170-550) and Spacers (206-170-323 / 206-170-324) from mounting locations by removing attachment screws (AN525-10R12) and washers (NAS1149F0332P). Retain hardware for reinstallation.
3. STC SR00036SE installed:
Remove the Control Cable (206-189-006). Remove at upper mounting location, one cable clamp (MS21919WDG5). Remove at lower mounting location, one screw (MS27039-1-09) and nut (MS21042L3), two washers (NAS1149D0332J), and one cable clamp (MS21919WDG5). Remove Control Cable from Cable Support Bracket Assembly (206-170-281) by removing retaining nut from bottom side of bracket. Retain removed hardware.
4. STC SR00036SE not installed:
Remove the Control Cable (206-189-006). Remove two cable clamps (MS21919WDG5). Remove Control Cable (206-189-006) from Cable Support Bracket Assembly (206-170-281) by removing retaining nut from bottom side of bracket. Retain removed hardware.
5. Remove Cable Support Bracket Assembly (206-170-281) from Console by removing bracket attachment screws (MS27039-1-08) and washers (NAS1149D0332J). Retain hardware for reinstallation.
6. Removal complete.

6.2 INSTALLATION – CARGO MIRROR KIT

(Refer to Figures 1 thru 4 as applicable.)

1. Install Cable Support Bracket Assembly (206-170-281) to Console using bracket attachment screws (MS27039-1-08) and washers (NAS1149D0332J).
2. Install Control Cable (206-189-006) to Cable Support Bracket Assembly (206-170-281). Use retaining nut to secure cable to bracket.

3. STC SR00036SE installed:
Secure Control Cable (206-189-006). At upper mounting location secure Control Cable using one cable clamp (MS21919WDG5). At lower mounting location secure Control Cable using one screw (MS27039-1-09) and nut (MS21042L3), two washers (NAS1149D0332J), and one cable clamp (MS21919WDG5). Reinsert Control Cable into through hole at chin bubble.
4. STC SR00036SE not installed:
Secure Control Cable (206-189-006). Secure Control Cable to Console using two cable clamps (MS21919WDG5). Reinsert Control Cable into through hole at chin bubble.
5. Install Support Assembly with Mirror (206-170-548 / 206-170-550) and Spacers (206-170-323/ -324) to mounting locations using attachment screws (AN525-10R12) and washers (NAS1149F0332P).
6. Install Control Cable (206-189-006) into Connector Fitting Assembly (206-170-277). Complete procedures in Section 4.5 Adjustments.
7. Installation complete.

7.0 STRUCTURAL FASTENER DATA

For hardware identification see Tables 3 thru 9 and Figures 1 thru 4.

8.0 SPECIAL TOOLS NEEDED

Torque wrench

9.0 RECOMMENDED OVERHAUL PERIODS

No component overhaul required for this type design change.

10.0 AIRWORTHINESS LIMITATIONS

No airworthiness limitations associated with this type design change.

11.0 WEIGHT AND BALANCE

Weight Change: 2.0 pounds
Station: 16.0
Lateral Arm: 7.5

12.0 PARTS BREAKDOWN

Tables 3 thru 9 contain Parts Breakdown data for BHT model 206A, 206B, 206L, 206L-1, 206L-3, 206L-4 Cargo Mirror Kit.

The column Availability Code (AV Code) specifies the procurement status for each part. The codes to identify if a part is procurable, procedure details to get an assembly or local manufacture code are as follows:

AV Code	Details
0	Nonprocurable part
1	Procurable part
2	Procure as detail parts only
3	Procurable as Next Higher Assembly
4	Local manufacture. Contact AAI Product Support Engineering (PSE)
5	Part replacement requires a fixture or special equipment. Contact AAI PSE
6	Non-stock procurable part

TABLE 3. PARTS BREAKDOWN, 206-175-203⁽¹⁾ / 206-175-303 CARGO MIRROR KIT

Qty -203	Qty -303	Part Number	Description	AV Code
1	1	206-170-281	Cable Support Bracket	1
1	1	206-170-323	Spacer L/H	1
1	1	206-170-324	Spacer R/H	1
1	1	206-170-403	Clip Assembly L/H (supersedes 206-170-303)	1
1	1	206-170-404	Clip Assembly R/H (supersedes 206-170-304)	1
2	2	206-170-421	Shim	1
1		206-170-548	Support Assembly with Mirror (Alt: 206-170-546)	0
	1	206-170-550	Support Assembly with Mirror	1
1	1	206-189-006	Control Cable (Alt: 206-189-004)	1
2	2	AN525-10R12	Screw	1
3	3	CCR264SS3-2	Rivet	1
4	4	MS20426AD3-4	Rivet	1
4	4	MS20426AD3-5	Rivet	1
2	2	MS20426AD4-6	Rivet	1
4	4	MS20470AD3-3	Rivet	1
1	1	MS21042L3	Nut	1
1	1	MS21069L3	Nut Plate	1
2	2	MS21919WDG5	Clamp	1
1	1	MS27039-1-08	Screw	1
1	1	MS27039-1-09	Screw	1
1	1	MS27039-1-11	Screw	1
1	3	NAS1149D0332J	Washer (Alt: AN960JD10L)	1
1	2	NAS1149F0332P	Washer (Alt: AN960-10L)	1
4	4	NAS1149F0463P	Washer (Alt: AN960-416)	1

Note 1: Kit superseded.

**TABLE 4. PARTS BREAKDOWN,
206-170-281 CABLE SUPPORT BRACKET**

Qty	Part Number	Description	AV Code
1	206-170-284	Bracket	1
-	206-170-297	Bolt (Modified) (Alt: NAS6604-14)	6
1	206-173-030	Decal	1

**TABLE 5. PARTS BREAKDOWN,
206-170-548⁽¹⁾ / 206-170-550 SUPPORT ASSEMBLY WITH MIRROR**

Qty -548	Qty -550	Part Number	Description	AV Code
1	1	206-170-271	Tube	1
1	1	206-170-277	Connector Fitting Assembly	1
1	1	206-170-257	Mounting Bracket Assembly	1
1	1	206-170-267	Bracket Assembly	1
1	1	206-170-558	Rod	1
1		206-189-011	Mirror Assembly	0
	1	206-189-111	Mirror Assembly	1
2	2	MS21042L04	Nut	1
1	1	MS21042L4	Nut	1
2	2	MS35206-220	Screw	1
7.75in	7.75in	MS23053/5-308-9	White Heatshrink (Alt: RNF100.5)	1
1	1	NAS1149D0463J	Washer	1
	1	099-050-178	Adhesive, Threadlocker (Loctite 22205)	1

Note 1: Assembly superseded.

**TABLE 6. PARTS BREAKDOWN,
206-170-277 CONNECTOR FITTING ASSEMBLY**

Qty	Part Number	Description	AV Code
1	206-170-279	Bushing	1
1	206-170-299	Bolt (AN4-5A Modified)	6
1	MS21042L4	Nut	1
1	NAS1149F0463P	Washer	1

**TABLE 7. PARTS BREAKDOWN,
206-170-257 MOUNTING BRACKET ASSEMBLY**

Qty	Part Number	Description	AV Code
1	206-170-261	Tube	1
1	206-170-265	Clip	1
1	206-170-266	Clip	1

**TABLE 8. PARTS BREAKDOWN,
206-170-267 BRACKET ASSEMBLY**

Qty	Part Number	Description	AV Code
1	206-170-268	Bracket	1
1	206-170-269	Tube	1

**TABLE 9. PARTS BREAKDOWN,
206-189-011 / 206-189-111 MIRROR ASSEMBLY**

Qty -011	Qty -111	Part Number	Description	AV Code
1	1	206-189-012	Mirror	1
1		206-189-015	Ball Stud	1
	1	206-189-017	Threaded Adapter	1

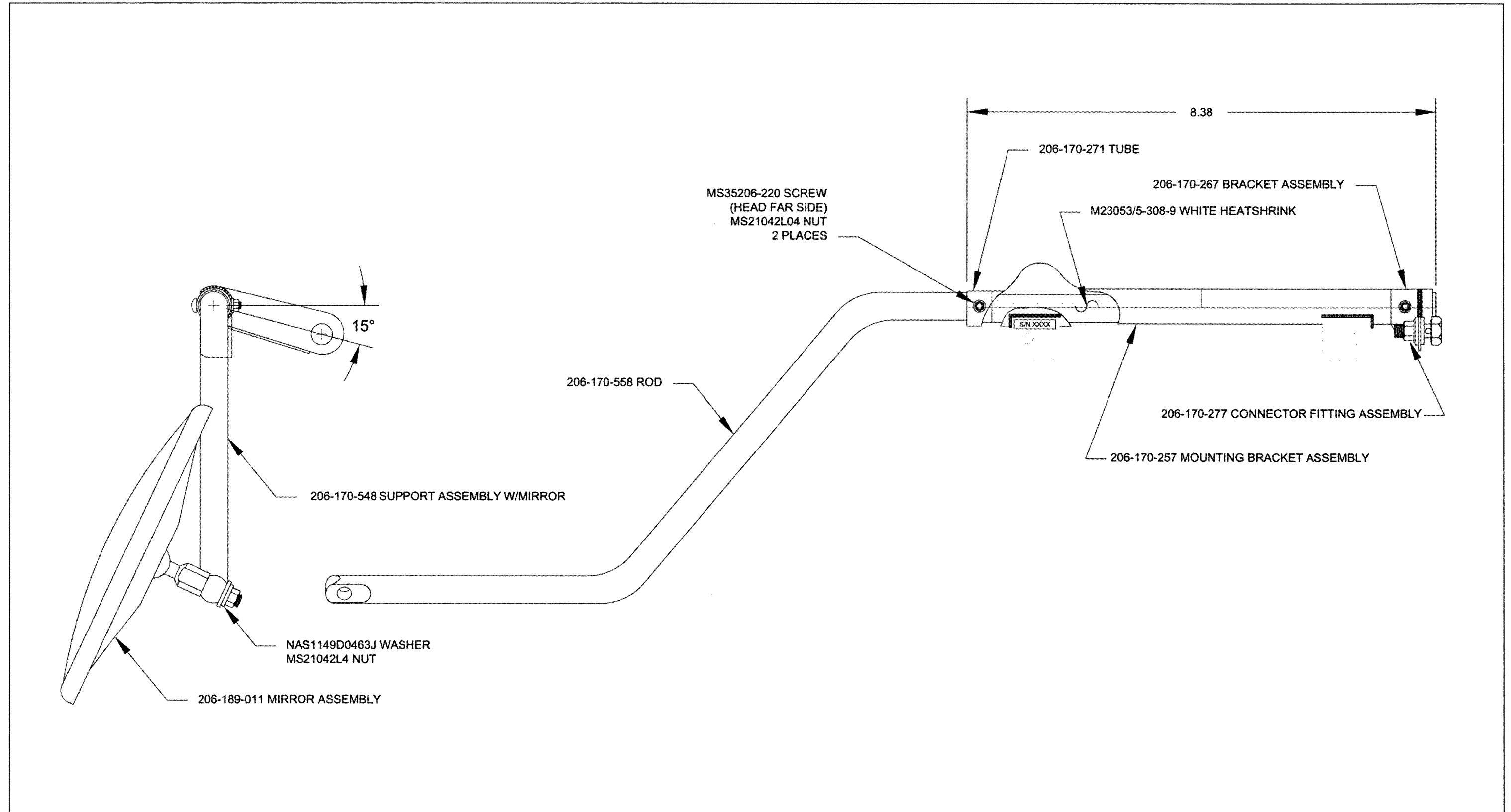


FIGURE 1. 206-170-548 SUPPORT ASSEMBLY WITH MIRROR (MIRROR REMOVED)

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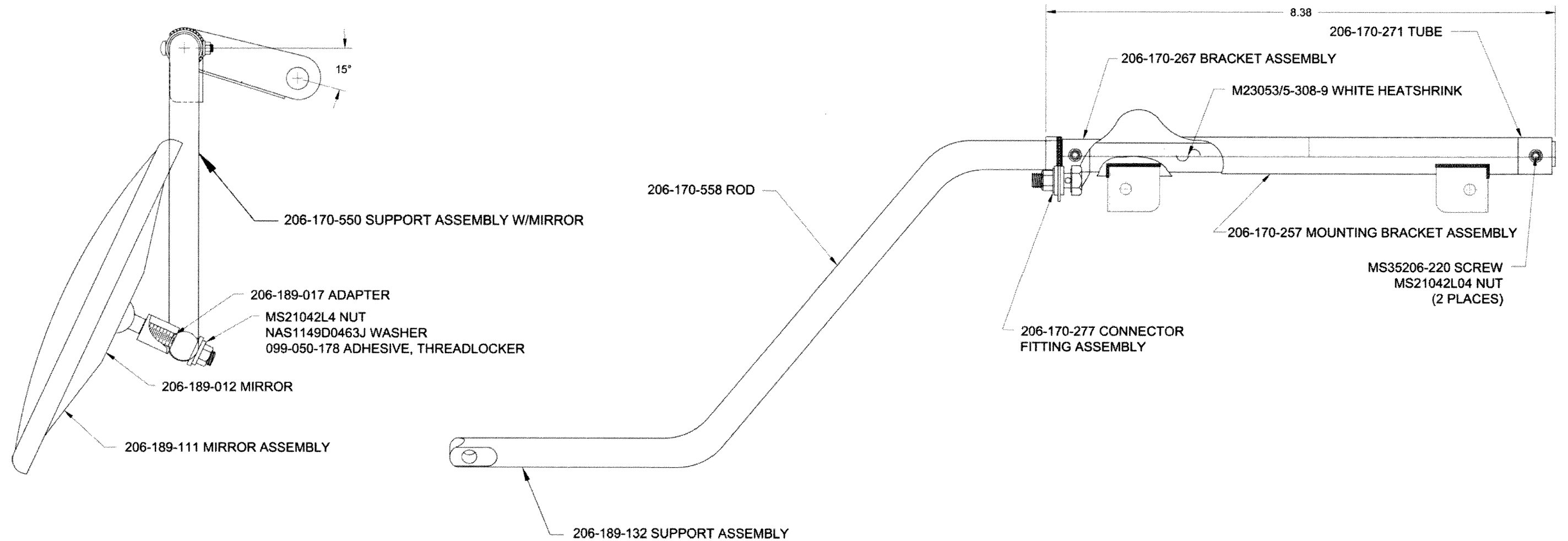


FIGURE 2. 206-170-550 SUPPORT ASSEMBLY WITH MIRROR (MIRROR REMOVED)

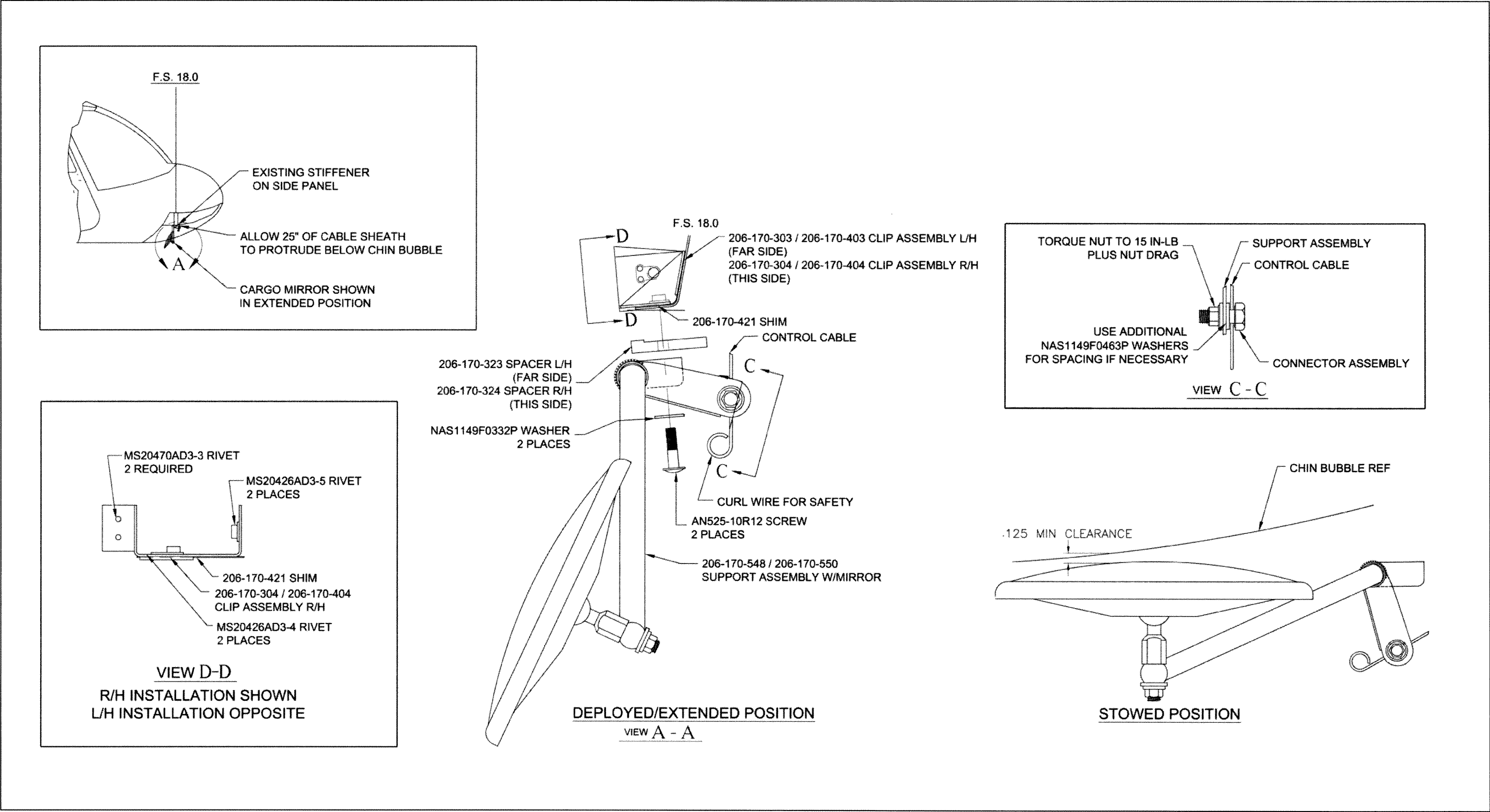


FIGURE 3. 206-175-203 / 206-175-303 CARGO MIRROR KIT INSTALLATION

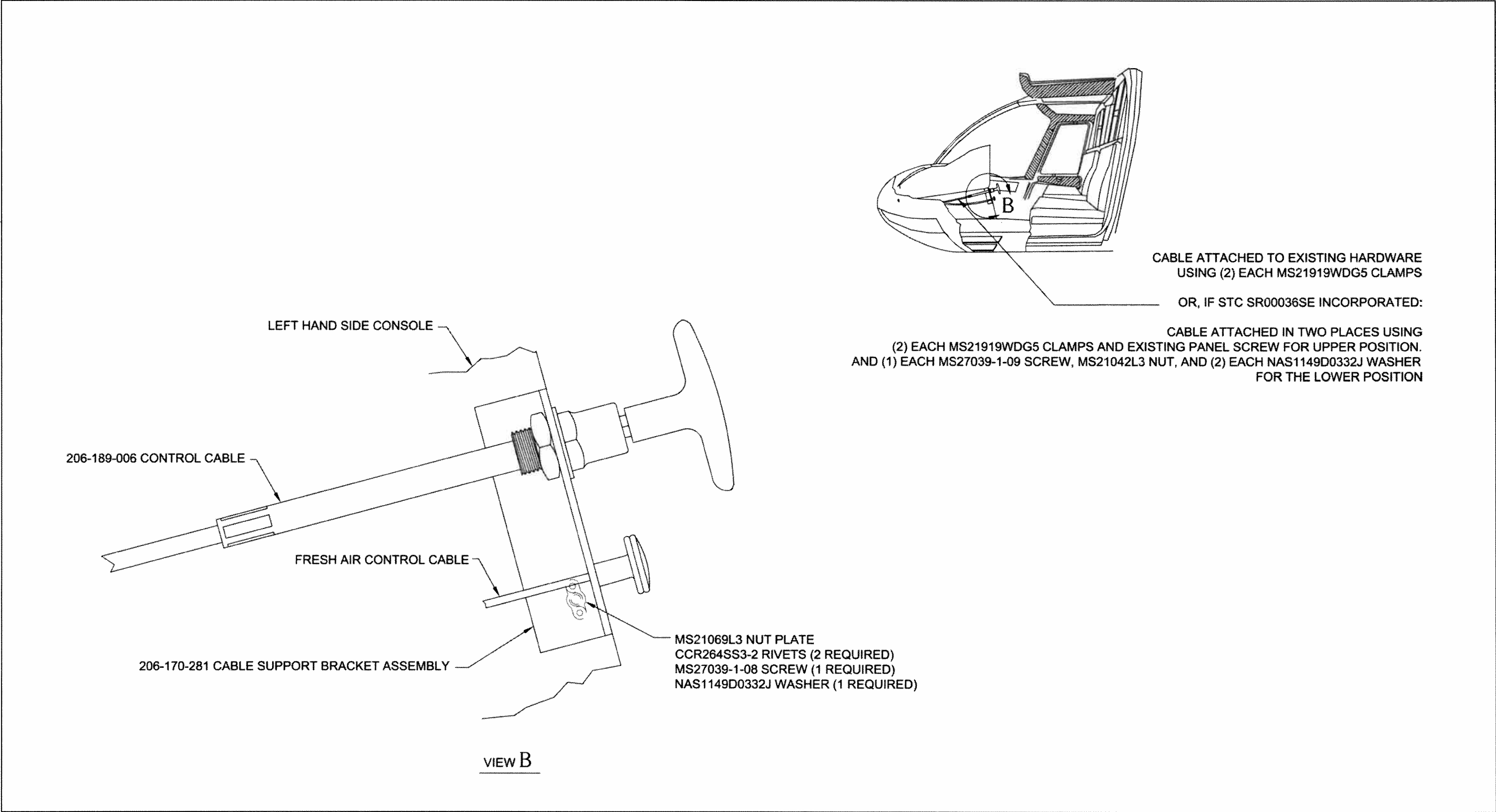


FIGURE 4. 206-189-006 CONTROL CABLE ASSEMBLY INSTALLATION

APPENDIX A

300 Hour / Annual Inspection Record

Work Order Number: _____

Registration Number: _____

Serial Number: _____

Total Time: _____

Date: _____

Inspect in accordance with Section 4.1, 300 Hour / Annual Inspection.

1. Inspect Support Assembly with Mirror for nicks, scratches, dents, corrosion, cracks or broken glass. _____
2. Inspect Cable Support Bracket for nicks, scratches, dents, and corrosion. _____

NOTE

The indications of corrosion are 1) corrosion deposits (a white or gray powder on aluminum or rust colored deposits on steel), 2) pits in aluminum or steel surfaces, 3) blisters, bulging or flaking of protective coatings

3. Check the torque value on the Control Cable Connector Assembly Nut and adjust as required to 15 in-lb plus nut drag. _____
4. Inspect attachment fasteners for security. _____
5. Rotate Control Cable T-Handle counter-clockwise to unlock and verify proper operation and deployment/extension of the mirror. _____
6. Push Control Cable T-Handle in to retract mirror and rotate T-Handle clockwise to lock. _____

Signature _____ **A & P No.** _____

Signature _____ **Inspector** _____