

TECHNICAL BULLETIN
***Bell* Helicopter**
A Textron Company

No. 206-07-192

Date OCT 22, 2007

Page 1 of 21

DATE

REV

MODEL AFFECTED: 206A/B SERIES

SUBJECT: ADJUSTABLE PEDAL ASSEMBLY 407-001-012-101, INTRODUCTION OF

HELICOPTERS AFFECTED: Bell 206 helicopters serial number 004 through 4614.

206B (TH 67) S/N 5101 through subsequent

[206B model serial number 4615 and subsequent will have the intent of this bulletin accomplished prior to delivery]

COMPLIANCE: At Customer's Option

DESCRIPTION:

This Technical Bulletin introduces new adjustable pedal assembly 407-001-012-101 that provides improved flight crew comfort.

- **Part I** provides instructions to install the new 407-001-012-101 adjustable pedal assembly.
- **Part II** provides instructions to upgrade the non adjustable pedal assemblies using the information provided in Table 1.
- **Part III** provides the damage limits for the adjustable pedal assembly 407-001-012-101 detail parts that are not currently covered by the component repair and overhaul manual.

APPROVAL:

The engineering design aspects of this bulletin are Transport Canada Civil Aviation (TCCA) approved.

MANPOWER:

Approximately 1 man-hour is required to complete Part I of this bulletin and 2 man-hours to complete Part II. Man-hours are based on hands-on time, and may vary with personnel and facilities available.

Warranty:

There is no warranty credit applicable for parts or labor associated with this Bulletin.

MATERIALS:**Required Material:**

The following material is required for the accomplishment of **PART I** or **II** of this bulletin. Parts may be obtained through your Bell Helicopter Textron Supply Center.

Part I. New Pedal Assembly installation.

<u>PART NUMBER</u>	<u>NOMENCLATURE</u>	<u>QTY</u>
407-001-012-101	Pedal assembly	1

Part II. Non adjustable Pedal Assembly upgrade.

<u>PART NUMBER</u>	<u>NOMENCLATURE</u>	<u>QTY</u>
206-001-706-119	Clevis assembly	1
407-001-700-101	Pedal assembly L/H	1
407-001-700-103	Pedal assembly R/H	1
NAS6604D96	Bolt	1

Consumable Material:

The following material is required to accomplish this bulletin, however this material is considered consumable (bench stock) material and may not require ordering depending on the facility consumable material stock levels. This material may be obtained through your Bell Helicopter Textron Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Quantity</u>	<u>Reference</u>
MIL-PRF-16173 GR 2	Corrosion Protective Compound	As required	C-102 (1)
MS24655-151	Cotter pin	6	
MS24655-155	Cotter pin	1	
MIL-PRF-16173 GR1	Corrosion Protective Compound	As required	C-101 (2)
MILC81706CL1A, FMII	Alodine 1200	As required	C-100
MIL-C-85285	Polyurethane coating	As required	C-245

NOTES:

- 1) As an alternate use MIL-C-16173 GR2
- 2) As an alternate use MIL-C-16173 GR1

SPECIAL TOOLS:

None required

WEIGHT AND BALANCE:

Apply the following weight and balance data when replacing the non adjustable pedal assemblies with one of the adjustable pedal assemblies.

PILOT SIDE WITH ADJUSTABLE PEDALS:

<u>Weight change</u>	<u>Longitudinal</u>		<u>*Lateral</u>		<u>Notes</u>
	<u>Arm</u>	<u>Moment</u>	<u>Arm</u>	<u>Moment</u>	
+ 0.7	36.3	25.0	12.7	9.0	(1)
+ 0.8	35.0	28.0	13.0	10.0	(2)

*In lateral calculations, - is left and + is right.

Notes:

- (1) Add the above weight when replacing a non adjustable pedal using the 206-001-713-001 support made of magnesium with the adjustable pedal assembly 407-001-012-101. The weight change is insignificant when a non adjustable pedal using a 206-001-713-101 support made of aluminum is replaced by the adjustable pedal assembly 407-001-012-101. Refer to Table 1.
- (2) Add the above weight when installing an adjustable pedal assembly 407-001-012-101FM as modified in **PART II**. Refer to Table 1.

CO- PILOT SIDE WITH ADJUSTABLE PEDALS:

<u>Weight change</u>	<u>Longitudinal</u>		<u>*Lateral</u>		<u>Notes</u>
	<u>Arm</u>	<u>Moment</u>	<u>Arm</u>	<u>Moment</u>	
+ 0.7	36.3	25.0	- 9.7	- 7.0	(1)
+ 0.8	35.0	28.0	- 10.0	- 8.0	(2)

*In lateral calculations, - is left and + is right.

Notes:

- (1) Add the above weight when replacing a non adjustable pedal using the 206-001-713-001 support made of magnesium with the adjustable pedal assembly 407-001-012-101. The weight change is insignificant when a non adjustable pedal using a 206-001-713-101 support made of aluminum is replaced by the adjustable pedal assembly 407-001-012-101. Refer to Table 1.
- (2) Add the above weight when installing adjustable pedal assembly 407-001-012-101FM as modified in **PART II**. Refer to Table 1.

ELECTRICAL LOAD DATA:

Not affected

REFERENCES:

BHT-206A/B-SERIES-IPB Illustrated Parts Breakdown, chapter 67-00-00
 BHT-206A/B-SERIES-MM-8 Maintenance Manual, chapter 67-00-00
 BHT-206B3-CR&O, chapter 67-00-00
 BHT-206A/B Service instruction 206-67
 BHT-ALL-SPM Standard Practice Manual, chapter 3-00-00

PUBLICATIONS AFFECTED:

BHT-206A/B-SERIES-IPB Illustrated Parts Breakdown, chapter 67-00-00
 BHT-206A/B-SERIES-MM-8 Maintenance Manual, chapter 67-00-00
 BHT-206B3-CR&O, chapter 67-00-00
 BHT-206A/B Service instruction 206-67

ACCOMPLISHMENT INSTRUCTIONS:**PART I: Installation of 407-001-012-101 adjustable pedal assembly.**

1. Remove non adjustable pedal assembly. Refer to the BHT-206A/B-SERIES-MM-8 and BHT-206-SI-67 if dual controls are installed.

-NOTE-

Non adjustable pedal assembly does not have an assembly part number. They are shown in the Illustrated Parts Breakdown as individual detail parts. To facilitate storage, the removed non adjustable pedal assembly can be identified with the TB number as indicated in step 2.

2. Identify the non adjustable pedal assembly as **TB 206-07-192** in the area shown on Figure 1 using a vibrating tool. The depth of the marking must not exceed 0.005 inch (0.13mm). Refer to note 4 of Figure 1.
3. Apply brush Alodine chemical film treatment (C-100) to the etched part number area. Apply Polyamide epoxy primer (C-246) and two coats of polyurethane coating (C-245) MIL-C-85285, color number 37038, flat black. Refer to the BHT-ALL-SPM Standard Practice Manual, chapter 3-00-00.
4. Install 407-001-012-101 adjustable pedal assembly. Refer to the BHT-206A/B-SERIES-MM-8 and BHT-206-SI-67 if dual controls are installed.
5. Verify the directional control rigging. Refer to the BHT-206A/B-SERIES-MM-8.

PART II: Upgrade of non adjustable pedal assembly.

-NOTE-

Table 1 shows the major components of the pedal assemblies and the specific hardware that needs to be replaced to accomplish PART II of this bulletin. For the remaining hardware refer to the BHT-206A/B-SERIES-IPB, chapter 67-00-00 or to the applicable dual control service instruction.

1. Remove and disassemble pedal assembly. Refer to the BHT-206A/B-SERIES-MM-8, chapter 67-00-00 and BHT-206-SI-67 if dual controls are installed.
2. Using the required parts assemble the pedal assembly as 407-001-012-101FM. Refer to table 1 and the applicable BHT-206A/B-SERIES-MM-8, Chapter 67.
3. Identify the field modified adjustable pedal assembly as 407-001-012-101FM on the surface area as shown in figure 1, using a vibrating tool. The depth of the vibroetch must not exceed 0.005 inch (0.13mm).

4. Apply brush Alodine chemical film treatment (C-100) to the etched part number area per step 3. Apply Polyamide epoxy primer (C-246) and two coats of polyurethane coating (C-245) MIL-C-85285, color number 37038, flat black. Refer to the BHT-ALL-SPM, chapter 3-00-00.
5. Install 407-001-012-101FM adjustable pedal assembly. Refer to the BHT-206A/B-SERIES-MM-8, chapter 67-00-00 and BHT-206-SI-67 if dual controls are installed.
6. Verify the directional control rigging. Refer to the BHT-206A/B-SERIES-MM-8.
7. Make an entry in the helicopter historical records to indicate that this Technical Bulletin has been accomplished.

Table 1: Pedal assemblies configuration

Nomenclature	P/N	QTY	Non adjust pedal assy (1) (3)	407-001-012-101 (1) (2) (4) (5)	407-001-012-101FM (1) (5)
L/H Pedal assy	206-001-703-001	1	X		
	407-001-700-101 (6)	1		X	X
R/H Pedal assy	206-001-703-002	1	X		
	407-001-700-103 (6)	1		X	X
Support assy	206-001-713-001 (7)	1	X		
	206-001-713-101 (8)	1	X		X
	206-001-713-105 (9)	1		X	X
Clevis assy	206-001-706-003 (10)	1	X		
	206-001-706-119 (11)	1		X	X
Bell Crank assy	206-001-702-005	1	X		X
	206-001-702-009	1		X	
Link assy	206-001-701-001	2	X	X	X
Knob	206-001-709-001	1	X	X	X
Bolt	AN4-64 (12)	1	X		
	NAS6604D96 (13)	1		X	X

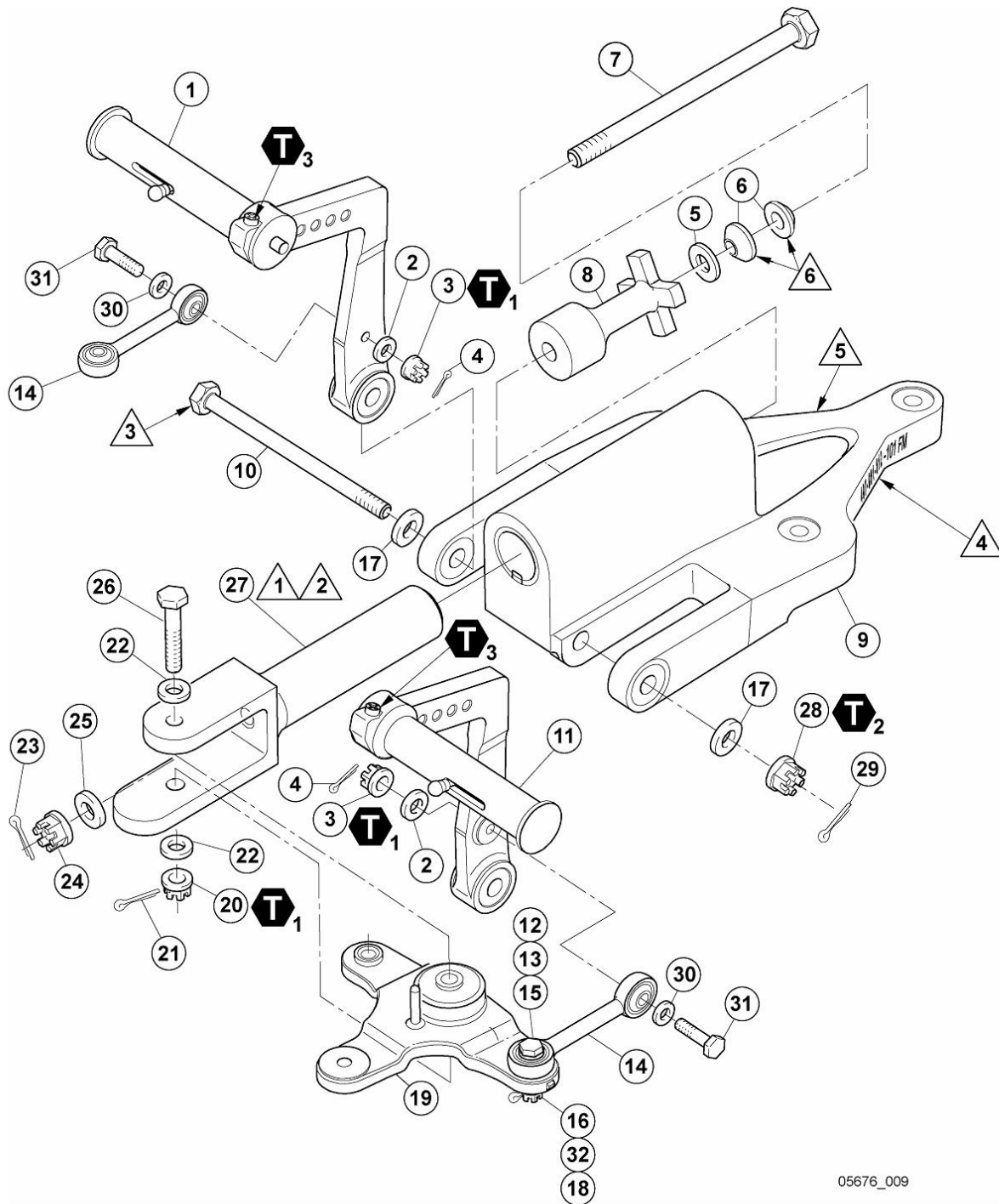
Notes:

1. Non adjustable pedal assembly installed on helicopters s/n 4 through 4614.
2. Adjustable pedal assembly installed on helicopters 4615 and subsequent.
3. Non adjustable pedal assembly can be upgraded to the new adjustable pedal assembly configuration. The modified pedal assembly 407-001-012-101FM is equivalent to the 407-001-012-101 pedal assembly. For complete parts breakdown refer to Figure 1.
4. Adjustable pedal assembly 407-001-012-101 is installed on S/N 4615 and subsequent. The 407-001-012-101 pedal assembly can be used on all 206A/B helicopters. For complete part breakdown refer to Figure 2.
5. Adjustable pedal assemblies 407-001-012-101 and -101FM can be mixed and matched with non adjustable pedal assemblies on 206A/B helicopters equipped dual controls.

6. Adjustable pedals 407-001-700-101 and 407-001-700-103 must be used in pairs on the adjustable pedal assemblies.
7. Support assembly 206-001-713-001 is made of magnesium. Installed on helicopters s/n 004 through 4196. This support assembly is superseded by the support assembly 206-001-713-101. Refer to the BHT-ALL-SPM for material identifications.
8. Support assembly 206-001-713-101 is made of aluminum. Installed on helicopters s/n 4197 through 4614. Replaces the -001 support assembly. This support assembly is superseded by the Support assembly 206-001-713-105. Refer to the BHT-ALL-SPM for material identifications.
9. Support assembly 206-001-713-105 is made of aluminum. This support assembly is a direct replacement for the support assemblies 206-001-713-001 and -101. Refer to Figure 4 for parts identifications.
10. Clevis assembly 206-001-706-003 is usable on non adjustable pedal assembly only. Refer to Figure 3 for parts identifications.
11. Clevis assembly 206-001-706-119 is usable on adjustable pedal assemblies only. Refer to Figure 3 for parts identifications.
12. Bolt AN4-64 useable on non adjustable pedal assembly only.
13. Bolt NAS6604D96 useable on adjustable pedal assemblies.







PART III. Damage limits.


1. For damage limits of pedal assembly detail parts not covered by the Component repair and overhaul manual refer to the figures 5, 6 and 7.





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Figure 1. PEDAL ASSEMBLY MODIFICATION 407-001-012-101FM
(Sheet 1 of 2)







- | | |
|--|--|
| 1. Pedal assembly (407-001-700-103)  | 16. Washer |
| 2. Washer | 17. Washer |
| 3. Nut | 18. Cotter pin |
| 4. Cotter pin | 19. Bellcrank |
| 5. Washer | 20. Nut |
| 6. Washer (Belleville) | 21. Cotter pin |
| 7. Bolt (NAS6604D96)  | 22. Washer (2 Req'd) |
| 8. Knob | 23. Cotter pin |
| 9. Support assembly | 24. Nut |
| 10. Bolt  | 25. Washer |
| 11. Pedal assembly (407-001-700-101)  | 26. Bolt |
| 12. Bolt | 27. Clevis (206-001-706-119)   |
| 13. Washer | 28. Nut |
| 14. Link assembly | 29. Cotter pin |
| 15. Washer | 30. Washer |
| | 31. Bolt |
| | 32. Nut |

 50 TO 70 IN-LBS
(5.65 TO 7.91 Nm)

 60 TO 85 IN-LBS
(6.78 TO 9.60 Nm)

 20 TO 25 IN-LBS
(2.26 TO 2.82 Nm)

NOTES

-  The following items need to be installed for the adjustable pedal assembly upgrade.
-  Refer to Figure 3 for part identification.
-  Install bolt head opposite side on co-pilot pedal assembly.
-  Mark modified pedal assembly in this area.
-  Mark non adjustable pedal assemblies in this area.
-  The outside diameters of bevel washers must be in contact with each other when installed. Inside diameters must not be in contact after installation.
7. The items not included in Note 1 do not need to be replaced at this time unless their condition warrants replacement. Refer to BHT-206A/B-Series-IPB.

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**Figure 1. Pedal assembly modification 407-001-012-101FM
(Sheet 2)**

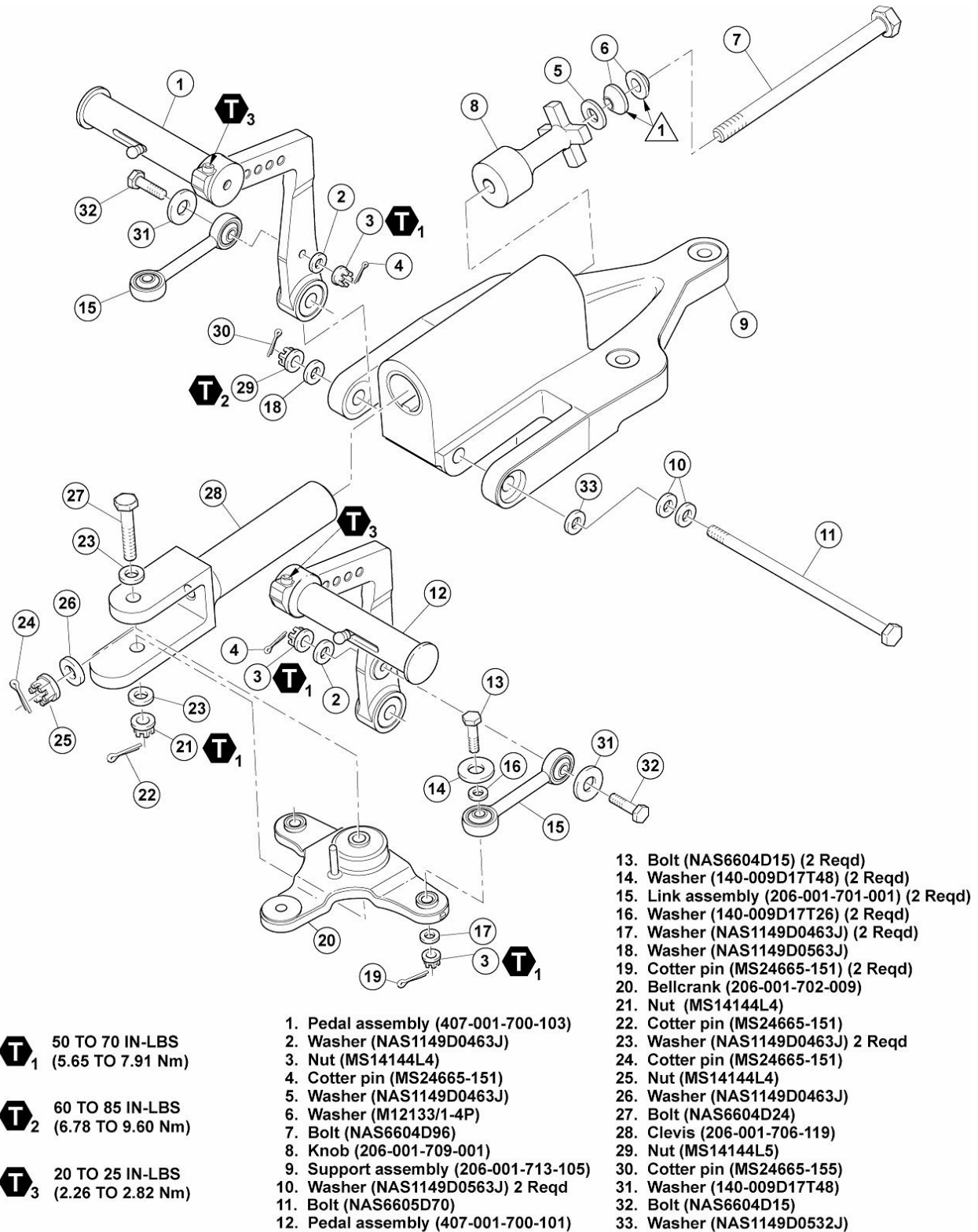


Figure 2. 407-001-012-101 Pedal assembly

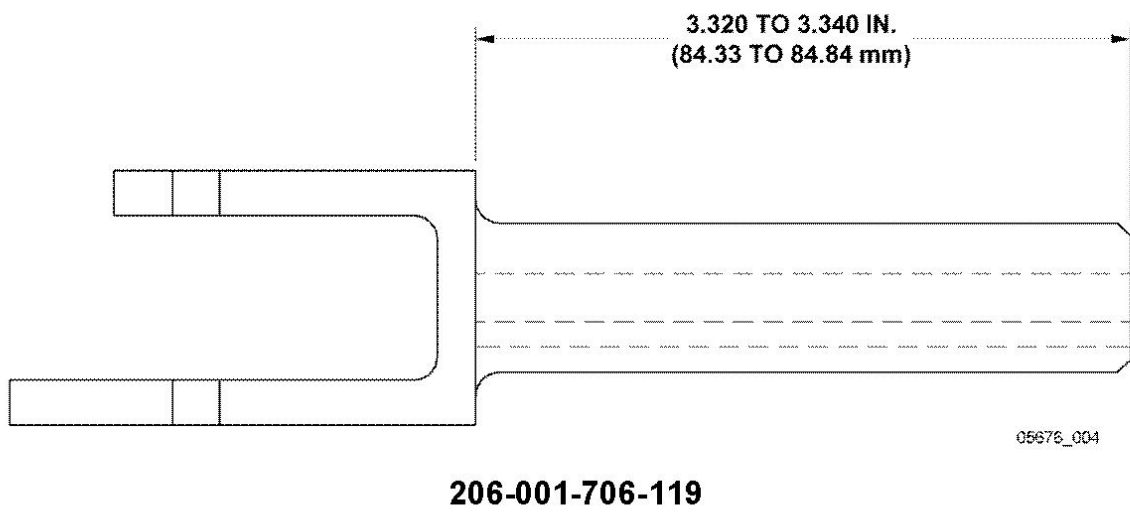
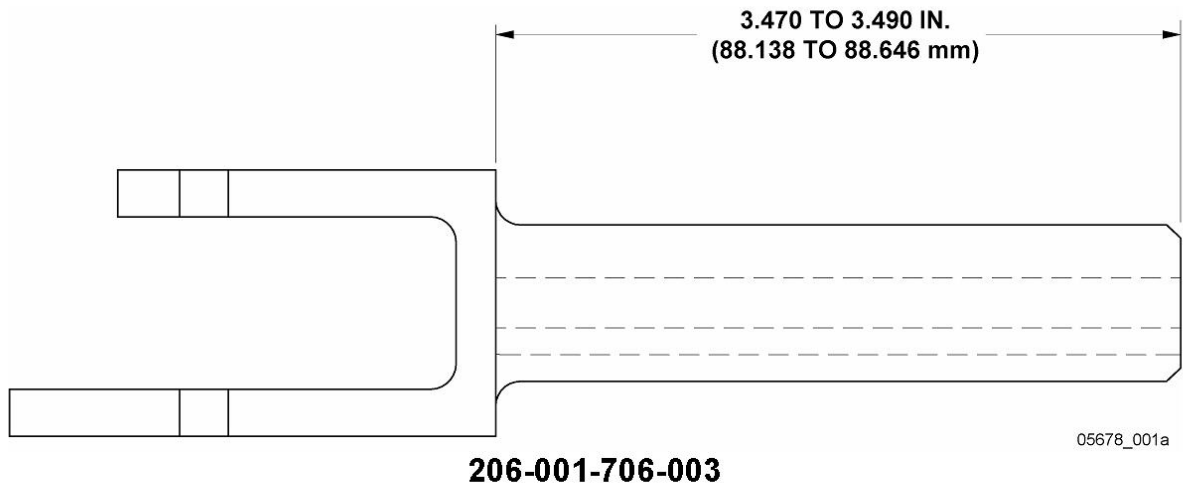
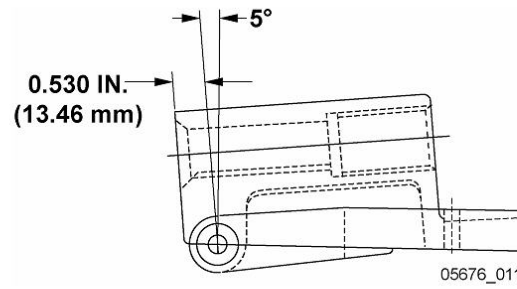
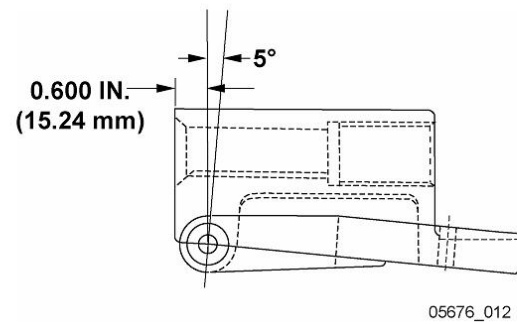


Figure 3. Clevis assemblies

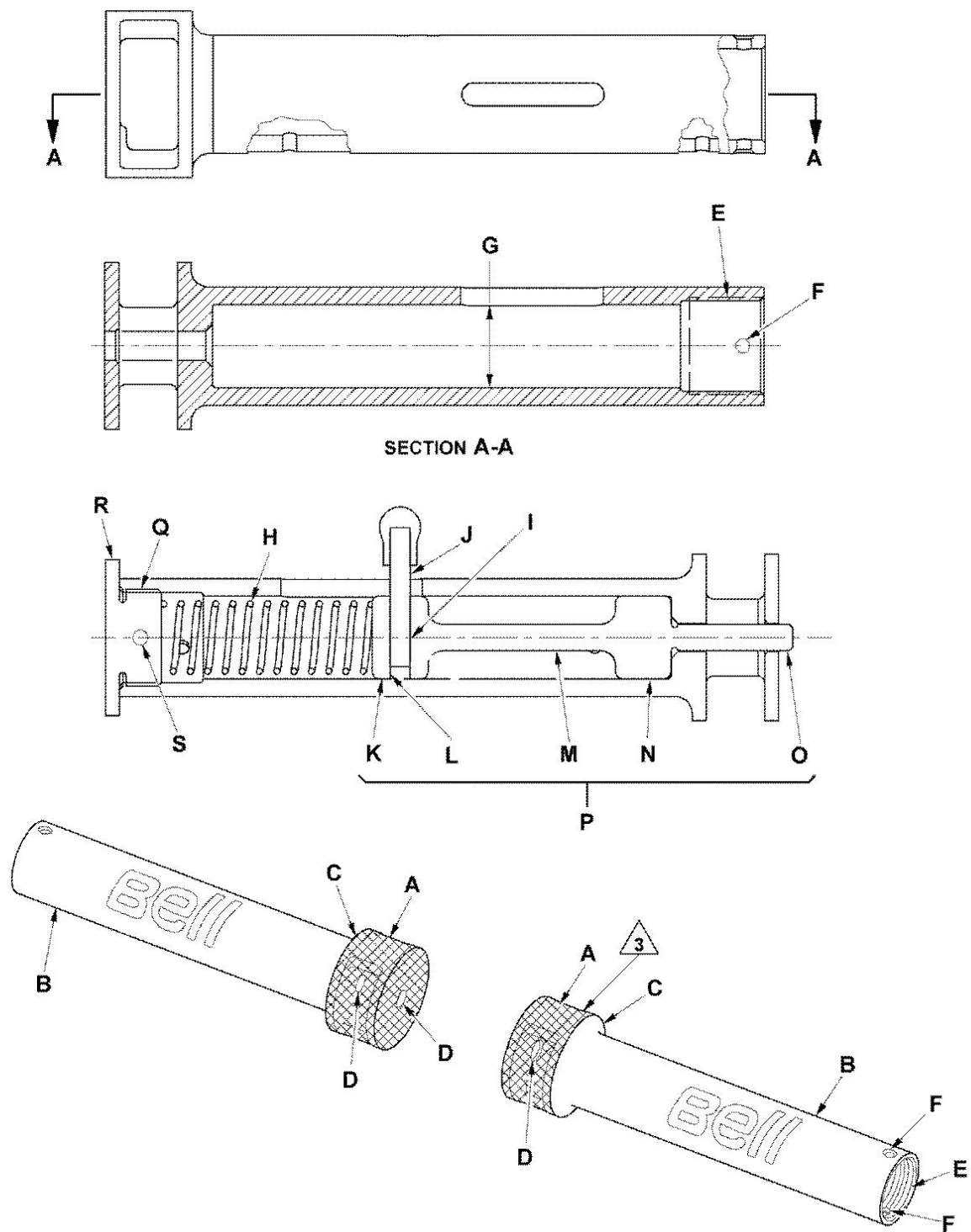


-101 SUPPORT



-105 SUPPORT

Figure 4. Support assemblies



407_MM_67_0522



Figure 5. Upper pedal L/H 407-001-750-101 and R/H 407-001-750-103
(Sheet 1 of 3)

FOOT PEG (407-001-751)

NO.	REF LTR	CHARACTERISTIC	INSPECTION METHOD	LIMIT	
1.	A	Mechanical/corrosion damage	Measure	0.020 inch (0.508 mm) before and after repair.	
2.	B	Mechanical/corrosion damage	Measure	0.040 inch (1.016 mm) before and after repair.	
3.	A	Corrosion damage	Measure	0.010 inch (0.254 mm) before repair and 0.020 inch (0.508 mm) after repair.	
4.	B, E, Q, R	Corrosion damage	Measure	0.020 inch (0.508 mm) before repair and 0.040 inch (1.016 mm) after repair.	
5.	A	Maximum area per full depth repair	Measure	0.10 square inch (64.516 mm ²).	
6.	B, R	Maximum area per full depth repair	Measure	0.25 square inch (161.29 mm ²).	
7.	A, I, K, M, N, O	Number of repair areas		One per area.	
8.	B, J, R	Number of repair areas		Not critical.	
9.	A, C	Mechanical/corrosion edge chamfer damage	Measure	0.030 inch (0.762 mm) x 45°.	
10.	B, E, Q, R	Mechanical/corrosion edge chamfer damage	Measure	0.060 inch (1.524 mm) x 45°.	
11.	D	Mechanical/corrosion bore/inside diameter damage	Measure	0.002 inch (0.0508 mm).	1
12.	E, Q, R	Mechanical/corrosion damage	Measure	0.040 inch (1.016 mm).	
13.	E, Q	Maximum area per full depth repair			2
14.	E, Q	Number of repair areas			2
15.	F, S	Maximum bore diameter	Measure	0.129 inch (3.276 mm).	
16.	G	Maximum bore diameter	Measure	0.754 inch (19.15 mm).	
17.	H	Spring rate	Measure	6.90 inch-pounds (0.77 Nm) maximum. 4.60 inch-pounds (0.519 Nm) minimum.	4
18.	I, J, P	Mechanical/corrosion damage	Measure	0.010 inch (0.254 mm).	

407_MM_67_0523

Figure 5. Upper pedal L/H 407-001-750-101 and R/H 407-001-750-103
(Sheet 2)

NO.	REF LTR	CHARACTERISTIC	INSPECTION METHOD	LIMIT
19.	I, J, P	Corrosion	Measure	0.005 inch (0.127 mm) before repair and 0.010 (0.254 mm) after repair.
20.	I, P	Maximum area per full depth repair	Measure	0.10 square inch (64.520 mm ²). 
21.	J	Maximum area per full depth repair	Measure	0.10 square inch (64.520 mm ²).
22.	P	Edge chamfer damage	Measure	0.040 inch (1.016 mm) x 45°.
23.	L	Maximum bore diameter	Measure	0.192 inch (4.877 mm).
24.	K, N	Maximum diameter	Measure	0.745 inch (18.923 mm).
25.	M, O	Maximum diameter	Measure	0.245 inch (6.223 mm). 

LETTER DESIGNATION






A 

B 

C CHAMFER BETWEEN FOOT PEG AND ATTACHMENT SECTION

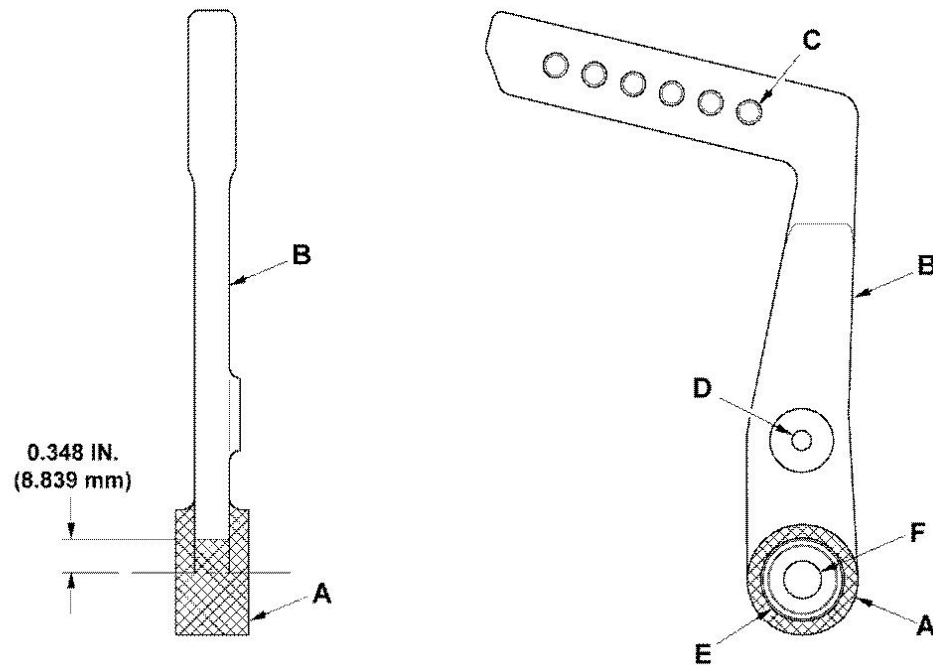
D LOCKING PIN BORE

NOTES

-  Bore damage for 1/4 of the circumference, limit of one repair per locking pin bore.
-  Total damage and repair on threaded area must not exceed one thread for 1/4 of the circumference.
-  Maximum damage and repair depth of edge chamfer that separates area A from B is 0.030 inch (0.762 mm) x 45°.
-  Remove and replace the spring if it is not within these limits.
-  For 1/4 of the circumference.
6. No cracks permitted.

407_MM_67_0178

**Figure 5. Upper pedal L/H 407-001-750-101 and R/H 407-001-750-103
(Sheet 3)**





LOWER PEDAL (407-001-740)


NO.	REF LTR	CHARACTERISTIC	INSPECTION METHOD	LIMIT
1.	A	Mechanical/corrosion damage	Measure	0.010 inch (0.254 mm) before and after repair.
2.	B	Mechanical/corrosion damage	Measure	0.020 inch (0.508 mm) before and after repair.
3.	A	Corrosion	Measure	0.005 inch (0.127 mm) before repair and 0.010 inch (0.254 mm) after repair.
4.	B	Corrosion	Measure	0.010 inch (0.254 mm) before repair and 0.020 inch (0.508 mm) after repair.
5.	A, B	Maximum area per full depth repair	Measure	0.10 square inch (64.516 mm ²)

407_MM_67_0620

Figure 6. Lower pedal 407-001-740 (sheet 1 of 2)

NO.	REF LTR	CHARACTERISTIC	INSPECTION METHOD	LIMIT
6.	A, B	Number of repairs		One per area.
7.	A	Mechanical/corrosion edge chamfer damage	Measure	0.010 inch (0.254 mm) x 45°
8.	B	Mechanical/corrosion edge chamfer damage	Measure	0.030 inch (0.762 mm) x 45°
9.	C, D	Mechanical/corrosion bore/inside diameter damage	Measure	0.002 inch (0.0508 mm) 
10.	E	Mechanical/corrosion bore/inside diameter damage	Measure	0.001 inch (0.0254 mm) 

LETTER DESIGNATION

A 


B 


C LOCKING PIN BORES

D BOLT BORE

E BEARING BORE

NOTES

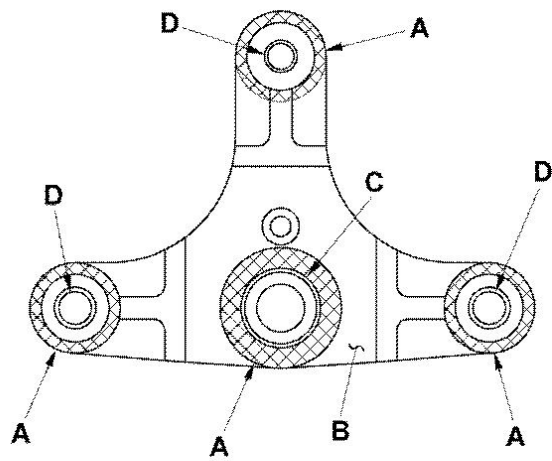
 Bore damage for 1/4 of the circumference, limit of one repair.

 Bore damage for 1/4 of the circumference.

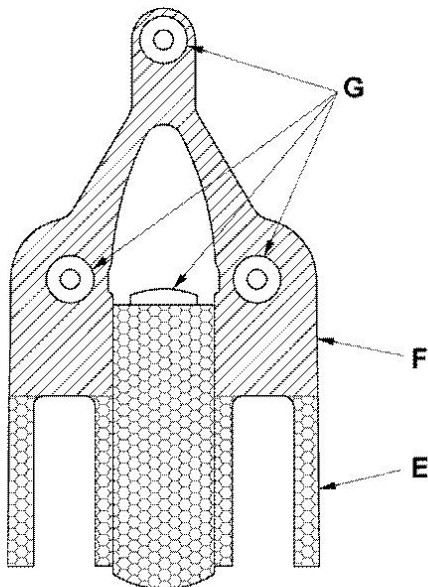
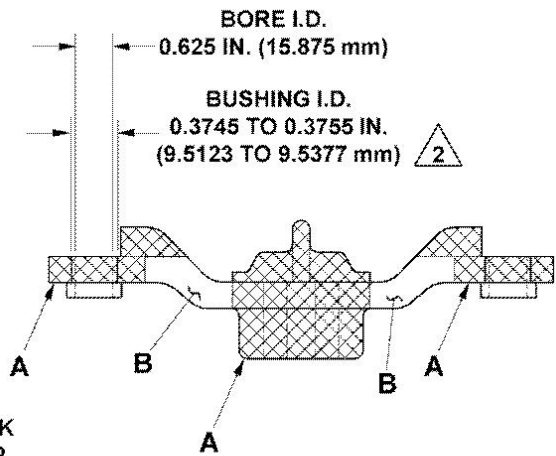
3. No cracks permitted.

407MM_67_0521

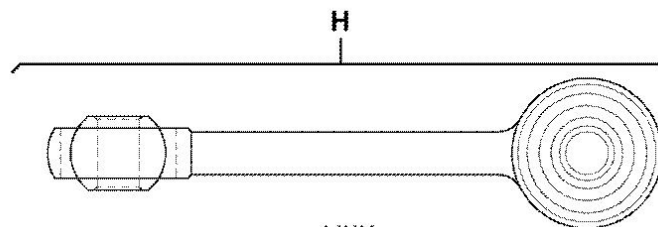
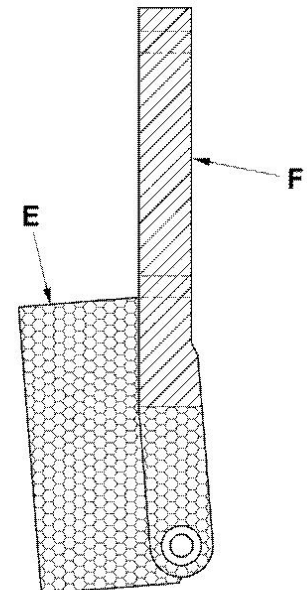
Figure 6. Lower pedal 407-001-740 (sheet 2)



BELL CRANK
206-001-702






SUPPORT
206-001-713



LINK
206-001-701

407_MM_67_0177





Figure 7. Bell Crank 206-001-702/ Support 206-001-713/ Link 206-001-701
(Sheet 1 of 3)

NO.	REF LTR	CHARACTERISTIC	INSPECTION METHOD	LIMIT	
1.	A, E	Mechanical/corrosion damage	Measure	0.020 inch (0.508 mm) before and after repair.	
2.	A, E	Corrosion	Measure	0.010 inch (0.254 mm) before repair and 0.020 inch (0.508 mm) after repair.	
3.	A, E	Maximum area per full depth repair	Measure	0.10 square inch (64.516 mm ²).	
4.	A, E	Number of repairs		One per area.	
5.	A, E	Mechanical/corrosion edge chamfer damage	Measure	0.030 inch (0.762 mm) x 45°.	
6.	D	Mechanical/corrosion bore/inside diameter damage	Measure	0.002 inch (0.0508 mm).	
7.	B, F	Mechanical/corrosion	Measure	0.040 inch (1.016 mm).	
8.	B, F	Corrosion	Measure	0.020 inch (0.508 mm) before repair and 0.040 inch (1.016 mm) after repair.	
9.	B, F	Maximum area per full depth repair	Measure	0.25 square inch (161.24 mm ²).	
10.	F	Number of repair areas		Not critical.	
11.	B, F	Edge chamfer damage	Measure	0.060 inch (1.524 mm) x 45°.	
12.	G	Maximum bore diameter	Measure	0.002 inch (0.051 mm).	
13.	B	Number of repair areas		Two per area.	
14.	C	Bore damage	Measure	0.001 inch (0.025 mm).	
15.	C	Bearing play	Measure	Axial: 0.030 inch (0.76 mm) Radial: 0.005 inch (0.13 mm).	
16.	H	Bearing play	Measure	Axial: 0.003 inch (0.08 mm) Radial: 0.010 inch (0.25 mm).	



407_MM_67_0179

Figure 7. Bell Crank 206-001-702/ Support 206-001-713/ Link 206-001-701
(Sheet 2)

LETTER DESIGNATION

- A 
- B 
- C BEARING (DW4)
- D BOLT BORE
- E 
- F 
- G BOLT BORE
- H LINK (206-001-701)

NOTES

- 1  Bore damage for 1/4 of the circumference, limit of one repair.
- 2  Bushing bore must be perpendicular to adjust surface within 0.004 inch (0.102 mm).
3. No cracks permitted.

407_MM_67_0180

Figure 7. Bell Crank 206-001-702/ Support 206-001-713/ Link 206-001-701
(Sheet 3)