

RV QUAD STEP 24" x 8 x 8, RIVET REPLACEMENT

SRP 1502-0001

REV.B032715

ISSUE:

HSM has determined that the rivets marked as #96 or rivets marked as #55, which connect the 2nd & 3rd step at the hinge point (2nd and 3rd step, defined as the 2nd step from the ground level and the 3rd step from the ground level) of the Quad step, may shear or pull out under load. HSM has further determined that on these RV Step configurations, the inboard rivets marked as #08 or 80, which connect the top step tread (top step, defined as the 4th step from the ground level) to the upper hinge bracket of the Quad Step, may shear or pull out under load.

Please Note:

The rivet numbers referenced previously may be utilized at other locations within the step assembly. These other rivet locations are not affected by this recall and should be considered safe under continued use.

ACTION:

Inspect your vehicles step to assure that it is an HSM product and to determine the rivet configuration for selection of the proper repair procedure. Then follow the service procedure steps as defined in Appendix "A" or "B", to correct the condition.

STEP INSPECTION PROCEDURE:

NOTE: SAFETY GLASSES MUST BE WORN AT ALL TIMES DURING THIS INSPECTION PROCEDURE.

1. Vehicle Staging - Stage the vehicle in a level, clean and dry area.
2. Secure for Service - Place wheel chocks at each axle to ensure that the vehicle cannot move during the inspection procedure.
3. Deploy the RV Step - Fully deploy the RV Step from the stowed position, extending it outward and unfold each step tread. This will position the step in the best position for inspection.

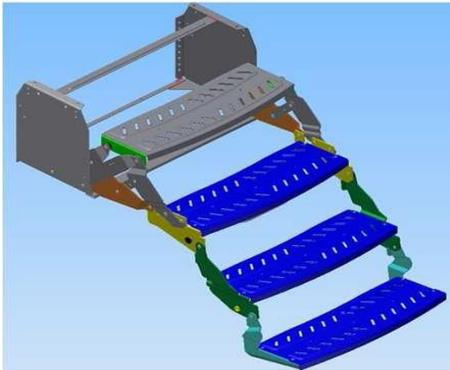
SRP 1502 – 0001 (CONTINUED)

CONFIRM MANUFACTURE:

The following features are unique to the HSM RV Quad Step and must be used for product identification.

4. Is The Step an HSM Product - With the step fully deployed, look for the following unique features:

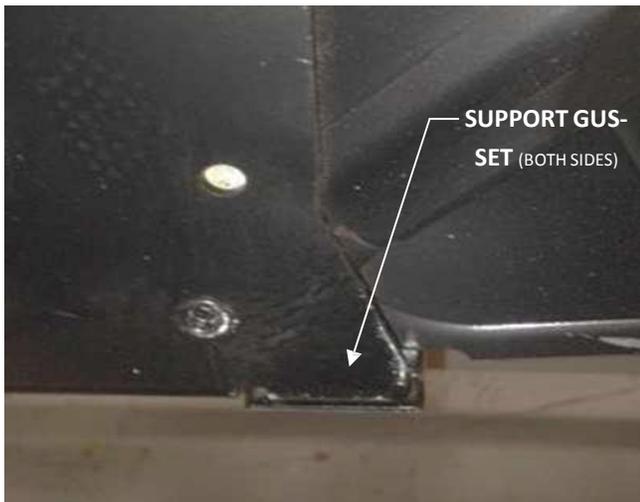
4.1 Does the step have a perforated or raised tread plate, as indicated in the following pictures?



HSM STYLE
TREAD PLATE



4.2 Does the step have a lower gusset on the outboard side of the step side mounting plate, as indicated in the following pictures?



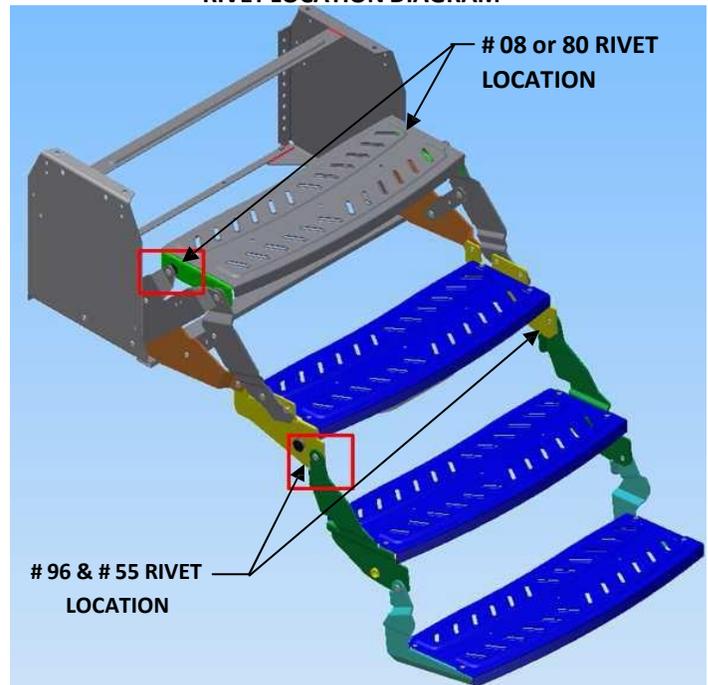
4.3 Does the step have an outboard lower cross-tube connecting the two end plates.



DETERMINE YOUR RV STEP CONFIGURATION:

5. Inspect your step to determine your step configuration. HSM manufactured two different configurations of step assemblies which are affected by this recall.

RIVET LOCATION DIAGRAM



NOTE: Please use the following inspection procedure to determine your steps configuration and the relevant Service Repair Procedure "Appendix".

SRP 1502 – 0001 (CONTINUED)

5.1 **CONFIGURATION “A”** - HSM RV Step with a shipping date between October 18th, 2012 and February 14th, 2014.

5.1.1 This configuration has a hinge point rivet marked with the #96 at the 2nd & 3rd Step (2nd & 3rd step, defined as the 2nd step from the ground level and the 3rd step from the ground level).

HINGE POINT RIVET MARKED #96 @ 2nd & 3rd STEP



5.1.2 And a Top Tread mount point rivet marked with the # 08 or 80 at the rear inboard mounting position, both left and right sides.

**TOP TREAD REAR
INBOARD POSITION**

#08 or 80 RIVET



NOTE: CONFIGURATION “A” - MUST BE REPAIRED IN ACCORDANCE WITH SRP-APPENDIX “A” .

REPAIR PROCEDURE SELECTION:

Upon confirmation of the step manufacturer and step configuration, please select the appropriate Service Repair Procedure Appendix, “A” or “B” and conduct the appropriate repairs.

5.2 **CONFIGURATION “B”** - HSM RV Step with a shipping date between February 16th, 2014 and January 9th, 2015.

5.2.1 This configuration has a hinge point rivet marked with the #55 at the 2nd & 3rd Step (2nd & 3rd step, defined as the 2nd step from the ground level and the 3rd step from the ground level).

HINGE POINT RIVET MARKED #55 @ 2nd & 3rd STEP



5.2.2 And a Top Tread mount point rivet marked with the # 08 or 80 at the rear inboard mounting position, both left and right sides.

**TOP TREAD
REAR POSITION**

#08 or 80 RIVET



NOTE: CONFIGURATION “B” - MUST BE REPAIRED IN ACCORDANCE WITH SRP-APPENDIX “B” .

RV QUAD STEP 24” x 8 x 8 - Hinge Point Rivet Replacement #96 @ 2nd & 3rd Step & Top Tread Mount Rivet #08 @ Inboard Mounting Position, LH & RH

ACTION:

This Appendix Addresses Step Configuration “A”:

HSM has determined that the rivet marked as #96, which connects the 2nd and 3rd step at the hinge point (2nd and 3rd step, defined as the 2nd step from the ground level and the 3rd step from the ground level) of the Quad step, may shear or pull out under load.

HSM has further determined that the inboard rivets marked as #08 or 80, which connect the Top Step Tread (top step, defined as the 4th step from the ground level) to the upper hinge bracket of the Quad step, may shear or pull out under load.

Please note, these rivet numbers may be utilized at other locations within the step assembly. These other rivet locations are not affected by this recall and should be considered safe under continued use.

The affected population of potentially defective products shipped to HSM customers between the dates of October 18th, 2012 and February 14th, 2014 .

TOOLSREQUIRED: (Configuration “A”)

- (1EA.) - SAFETY GLASSES
- (1PR.) - MECHANICS GLOVES
- (1EA.) - AIR DRILL, 1/2” CHUCK
- (1EA.) - DRILL BIT, METAL- 3/8”
- (1EA.) - AIR RATCHET WRENCH, SQ DRIVE 3/8”
- (1EA.) - TORQUE WRENCH 3/8” DRIVE
- (2EA.) - 9/16” SOCKET, 3/8” DRIVE
- (1EA.) - 5/8” WRENCH, BOXED END
- (1EA.) - DRIFT PUNCH 1/4” DIA.
- (1EA.) - 16 oz. BALLPEEN HAMMER

PARTSREQUIRED: HSM KIT # 185405**2nd & 3rd STEP HARDWARE REQ'D: # 96 RIVET KIT**

- (2EA.) - SCREW, CAP HEX HD G5 3/8-18 UNC 1.00 GRIP LGTH = 0.58
- (2EA.) - WASHER, 1.00 OD x .390 ID x .060 THK 660 NYLON
- (2EA.) - STEEL FLAT WASHER, 3/8 TYPE A—WIDE
- (2EA.) - STOVER NUT, 3/8-16

TOP STEP HARDWARE REQ'D: # 08/80 RIVET KIT

- (2EA.) - SCREW, CAP HEX HD G5 3/8-16 UNC 1.25 GRIP LGTH = 0.64
- (2EA.) - SPACER, 1.00 OD x .390 ID x .395 THK 660 NYLON
- (2EA.) - STEEL FLAT WASHER, 3/8 TYPE A—WIDE
- (2EA.) - STOVER NUT, 3/8-16

- (1EA.) - Paint, Rust-Oleum Protective Enamel Spray Gloss Black
(Not Included W/ Parts Kit)

NOTE: The HSM Parts Kit # 185405 contains parts to service all step configurations. Part utilization is dependent upon the step configuration; therefore there will be unused parts upon completion of the service work.

SERVICE REPAIR PROCEDURE:**“ATTENTION”**

“DO NOT USE THE RV STEP DURING THE REPAIR PROCESS”

“MAKE SURE THE ENTRY DOOR IS IN THE CLOSED POSITION DURING THIS PROCEDURE”

SAFETY GLASSES MUST BE WORN AT ALL TIMES DURING THIS REPAIR PROCEDURE.

1. Vehicle Staging - Stage the vehicle in a level, clean and dry area.
2. Secure for Service - Place wheel chocks at each axle to ensure that the vehicle can not move during the service procedure.

RIVET REMOVAL / BOLT INSTALL @ 2nd & 3rd STEP

3. In accordance with the following procedures, remove the RH Rivet first and install the bolt set. Repeat steps 4.1 thru 4.4 and 5.1 thru 5.4 for the LH Rivet.

NOTE: ONLY REPLACE ONE RIVET JOINT AT A TIME, THIS WILL MAKE REASSEMBLY EASIER!

- 3.1 Deploy the RV Step - Partially deploy the RV Step from the stowed position, extending it outward approximately 6”. This will position the hinge rivet in the best position for removal.

NOTE: “Do not unfold any of the step treads from their stowed position”.



SRP 1502 – 0001

APPENDIX “A” (CONTINUED)

4.1 Drill The Rivet - Using a 3/8” drill bit, drill out the hinge rivet on the inner side of the step.

DRILL RIVET



4.2 Remove Rivet - Remove the hinge rivet from the step bracket. If necessary use the 1/4” Drift Punch and Ballpeen Hammer to drive the Rivet from the mounting hole.

REMOVE RIVET



4.3 Disconnect Step - With the rivet now removed, disconnect the lower step (step treads 1 and 2) from the step assembly.

DISCONNECT STEP



4.4 Enlarge hole of the inner bracket using 3/8” drill bit. This hole must be enlarged for the 3/8” hex head bolt.

ENLARGE HOLE



SRP 1502 – 0001

RVSTEPREASSEMBLY@HINGEPOINT2&3STEP

5. In accordance with the following procedures, reassemble the RH Bolt first and then repeat steps 5.1 thru 5.4 for the LH Rivet.

REQUIRED FASTENERS FOR 2nd & 3rd STEP HINGE JOINT

To Replace 96 Rivet

- (2EA.) - SCREW, CAP HEX HD G5 3/8-18 UNC 1.00 GRIP LGTH = 0.58
- (2EA.) - WASHER, 1.00 OD x .390 ID x .060 THK 660 NYLON
- (2EA.) - STEEL FLAT WASHER, 3/8 TYPE A—WIDE
- (2EA.) - STOVER NUT, 3/8-16
- (1EA.) - Paint, Rust-Oleum Protective Enamel Spray Gloss Black
(Not Included W/ Parts Kit)

5.1 Align The Step - Align the step mounting hole at the RH side of the step. If necessary insert the 1/4" Drift Punch through the hinge hole as an alignment guide.

5.2 Insert Nylon Washer - Insert Nylon Washer between the lower step hinge bracket and the upper step hinge bracket.

5.3 Insert Bolt (3/8" x 1" long bolt to replace 96 rivet) - From outside of the lower step hinge bracket, insert bolt through the hinge bracket hole, the Nylon Washer and the upper step hinge bracket hole. This should place the threaded end of the bolt toward the interior of the step assembly.

Note: Make sure the Nylon washer is located between the inner and outer brackets.

INSERT BOLT & WASHER



APPENDIX "A" (CONTINUED)

5.4 Install Flat Washer and Stover Nut onto end of bolt.
NOTE: Install to 12-16 ft. lbs. of torque for proper step operation.

INSERT NUT & WASHER



RIVET REMOVAL/BOLT INSTALL @ TOP STEP

6. In accordance with the following procedures, remove the RH Rivet first and install the bolt set. Repeat steps 7.1 thru 7.3 and 8.1 thru 8.4 for the LH Rivet.

NOTE: ONLY REPLACE ONE RIVET JOINT AT A TIME, THIS WILL MAKE REASSEMBLY EASIER!

6.1 Deploy the RV Step - Deploy the RV Step from the stowed position, extending it outward to a resting position. This will position the Top Tread rivet in the best position for removal.

DEPLOY STEP



SRP 1502 – 0001

NOTE: “Do not unfold any of the step treads from their stowed position”.

7.1 Drill The Rivet - Position yourself below the step, then using an air drill with a 3/8” drill bit, drill through the flange area of the Top Tread inboard rivet.



7.2 Remove Rivet - Remove the mounting rivet from the step bracket. If necessary use the 1/4” Drift Punch and Ballpeen Hammer to drive the Rivet from the mounting hole.

7.3 Enlarge hole of step plate assembly using a 3/8” drill bit. The linkage arm can be used as a guide by lifting up steps with one hand to line up holes of linkage arm and step plate assembly.

ENLARGE HOLE



APPENDIX “A” (CONTINUED)

7.3.1 (Optional) Clamps can also be used as shown below to clamp step in position .



SRP 1502 – 0001

TOP STEP TREAD REASSEMBLY

8. In accordance with the following procedures, reassemble the RH Bolt first and then repeat steps 8.1 thru 8.4 for the LH Rivet.

REQUIRED FASTENERS FOR THE TOP STEP TREAD MOUNT - # 08/80 RIVET KIT

- (2EA.) - SCREW, CAP HEX HD G5 3/8-16 UNC 1.25 GRIP LGTH = 0.64
- (2EA.) - SPACER, 1.00 OD x .390 ID x .395 THK 660 NYLON
- (2EA.) - STEEL FLAT WASHER, 3/8 TYPE A—WIDE
- (2EA.) - STOVER NUT, 3/8-16
- (1EA.) - Paint, Rust-Oleum Protective Enamel Spray Gloss Black (Not Included W/ Parts Kit)

8.1 Align The Step - Align the step mounting hole at the RH side of the step. If necessary insert the 1/4" Drift Punch through the linkage hole as an alignment guide.

8.2 Insert Spacer - Insert Nylon Spacer between linkage arm and the upper step plate assembly.

8.3 Insert Bolt (3/8" x 1.25" long bolt to replace 08 or 80 rivet) - From outside of the linkage arm, insert the 3/8" Hex Head Bolt through the linkage arm hole, the Nylon Spacer and the upper step plate assembly hole. This should place the threaded end of the bolt toward the interior of the step assembly.

INSERT WASHER / BOLT



APPENDIX “A” (CONTINUED)

8.4 Install Flat Washer and Lock Nut - Install the 3/8" Flat Washer and 3/8" Stover Nut onto the end of the 3/8" Hex Head Bolt.

NOTE: Tighten the Stover Nut to 12-16 ft. lbs. of torque for proper step operation.

INSTALL FLAT WASHER / NUT



9. Refinish Paint - Refinish painted surface at the repaired areas of the step, as needed.



RV QUAD STEP 24” x 8 x 8 - Hinge Point Rivet Replacement #55 @ 2nd & 3rd Step & Top Tread Mount Rivet #08 @ Inboard Mounting Position, LH & RH

ACTION:

This Appendix Addresses Step Configuration B:

HSM has determined that the rivet marked as #55, which connects the 2nd and 3rd step at the hinge point (2nd and 3rd step, defined as the 2nd step from the ground level and the 3rd step from the ground level) of the Quad step, may shear or pull out under load.

HSM has further determined that the inboard rivets marked as #08, which connect the Top Step Tread (top step, defined as the 4th step from the ground level) to the upper hinge bracket of the Quad step, may shear or pull out under load.

Please note, these rivet numbers may be utilized at other locations within the step assembly. These other rivet locations are not affected by this recall and should be considered safe under continued use.

The affected population of potentially defective products shipped to HSM customers between the dates of February 16th, 2014 and January 9th, 2015.

TOOLS REQUIRED: (Configuration “B”)

- (1EA.) - SAFETY GLASSES
- (1PR.) - MECHANICS GLOVES
- (1EA.) - AIR DRILL, 1/2” CHUCK
- (1EA.) - DRILL BIT, METAL- 3/8”
- (1EA.) - DRILL BIT, METAL- 7/16”
- (1EA.) - AIR RATCHET WRENCH, SQ DRIVE 3/8”
- (1EA.) - TORQUE WRENCH 3/8” DRIVE
- (1EA.) - 9/16” SOCKET, 3/8” DRIVE
- (2EA.) - 9/16” WRENCH, BOXED END
- (1EA.) - 5/8” SOCKET, 3/8” DRIVE
- (1EA.) - 11/16” WRENCH, BOXED END

PARTSREQUIRED: HSM KIT # 185405

2nd & 3rd STEP HARDWARE REQ'D: # 55 RIVET KIT

- (2EA.) - SCREW, CAP HEX HD G5 7/16-14 UNC 1.00 GRIP LGTH = 0.58
- (2EA.) - WASHER, 1.00 OD X .440 ID x .0.0 THK 660 NYLON
- (2EA.) - STEEL FLAT WASHER, 7/16 TYPE A—WIDE
- (2EA.) - STOVER NUT, 7/16-14

TOP STEP HARDWARE REQ'D: # 08/80 RIVET KIT

- (2EA.) - SCREW, CAP HEX HD G5 3/8-16 UNC 1.25 GRIP LGTH = 0.64
- (2EA.) - SPACER, 1.00 OD x .390 ID x .395 THK 660 NYLON
- (2EA.) - STEEL FLAT WASHER, 3/8 TYPE A—WIDE
- (2EA.) - STOVER NUT, 3/8-16

- (1EA.) - Paint, Rust-Oleum Protective Enamel Spray Gloss Black

NOTE: The HSM Parts Kit # 185405 contains parts to service all step configurations. Part utilization is dependent upon the step configuration; therefore there will be unused parts upon completion of the service work.

SERVICE REPAIR PROCEDURE:

“ATTENTION”

“DO NOT USE THE RV STEP DURING THE REPAIR PROCESS”

“MAKE SURE THE ENTRY DOOR IS IN THE CLOSED POSITION DURING THIS PROCEDURE”

SAFETY GLASSES MUST BE WORN AT ALL TIMES DURING THIS REPAIR PROCEDURE.

1. Vehicle Staging - Stage the vehicle in a level, clean and dry area.
2. Secure for Service - Place wheel chocks at each axle to ensure that the vehicle cannot move during the service procedure.

RIVET REMOVAL @ 2nd & 3rd STEP

3. In accordance with the following procedures, remove the RH Rivet first and then repeat steps 4.1 thru 4.4 for the LH Rivet.

3.1 Deploy the RV Step - Partially deploy the RV Step from the stowed position, extending it outward approximately 6”. This will position the hinge rivet in the best position for removal.

NOTE: “Do not unfold any of the step treads from their stowed position”.



SRP 1502 – 0001

APPENDIX “B” (CONTINUED)

4.1 Drill The Rivet - Using a 7/16” drill bit, drill out the hinge rivet on the inner side of the step.

DRILL RIVET



4.2 Remove Rivet - Remove the hinge rivet from the step bracket. If necessary use the 1/4” Drift Punch and Ballpeen Hammer to drive the Rivet from the mounting hole.

REMOVE RIVET



4.3 Disconnect Step - With the rivet now removed, disconnect the lower step (step treads 1 and 2) from the step assembly.

DISCONNECT STEP



4.4 Enlarge hole of the inner bracket using 7/16” drill bit. This hole must be enlarged for the 7/16” hex head bolt.

ENLARGE HOLE



SRP 1502 – 0001

RVSTEPREASSEMBLY@HINGEPOINT2&3STEP

5. In accordance with the following procedures, reassemble the RH Bolt first and then repeat steps 5.1 thru 5.4 for the LH Rivet.

REQUIRED FASTENERS FOR 2nd & 3rd STEP HINGE JOINT

2nd & 3rd STEP HARDWARE REQ'D: # 55 RIVET KIT

(2EA.) - SCREW, CAP HEX HD G5 7/16-14 UNC 1.00 GRIP LGTH = 0.58

(2EA.) - WASHER, 1.00 OD X .440 ID x .0.0 THK 660 NYLON

(2EA.) - STEEL FLAT WASHER, 7/16 TYPE A—WIDE

(2EA.) - STOVER NUT, 7/16-14

(1EA.) - Paint, Rust-Oleum Protective Enamel Spray Gloss Black
(Not Included W/ Parts Kit)

5.1 Align The Step - Align the step mounting hole at the RH side of the step. If necessary insert the 1/4" Drift Punch through the hinge hole as an alignment guide.

5.2 Insert Nylon Washer - Insert Nylon Washer between the lower step hinge bracket and the upper step hinge bracket.

5.3 Insert Bolt (7/16" x 1" long bolt to replace 55 rivet) - From outside of the lower step hinge bracket, insert bolt through the hinge bracket hole, the Nylon Washer and the upper step hinge bracket hole. This should place the threaded end of the bolt toward the interior of the step assembly.

Note: Make sure the Nylon washer is located between the inner and outer brackets.

INSERT BOLT & WASHER



APPENDIX "B" (CONTINUED)

5.4 Install Flat Washer and Stover Nut onto end of bolt. Install to 12-16 ft. lbs. of torque for proper step operation.

INSERT NUT & WASHER



RIVET REMOVAL @ TOP STEP TREAD MOUNT

6. In accordance with the following procedures, remove the RH Rivet first and then repeat steps 7.1 thru 7.3 for the LH Rivet.

6.1 Deploy the RV Step - Deploy the RV Step from the stowed position, extending it outward to a resting position. This will position the Top Tread rivet in the best position for removal.

DEPLOY STEP



SRP 1502 – 0001

NOTE: "Do not unfold any of the step treads from their stowed position".

7.1 Drill The Rivet - Position yourself below the step, then using an air drill with a 3/8" drill bit, drill through the flange area of the Top Tread inboard rivet.



7.2 Remove Rivet - Remove the mounting rivet from the step bracket. If necessary use the 1/4" Drift Punch and Ballpeen Hammer to drive the Rivet from the mounting hole.

7.3 Enlarge hole of step plate assembly using a 3/8" drill bit. The linkage arm can be used as a guide by lifting up steps with one hand to line up holes of linkage arm and step plate assembly.

ENLARGE HOLE



APPENDIX "B" (CONTINUED)

7.3.1 (Optional) Clamps can also be used as shown below to clamp step in position .



SRP 1502 – 0001

TOP STEP TREAD REASSEMBLY

8. In accordance with the following procedures, reassemble the RH Bolt first and then repeat steps 8.1 thru 8.4 for the LH Rivet.

REQUIRED FASTENERS FOR THE TOP STEP TREAD

MOUNT - TOP STEP HARDWARE REQ'D: # 08/80 RIVET KIT

(2EA.) - SCREW, CAP HEX HD G5 3/8-16 UNC 1.25 GRIP LGTH = 0.64

(2EA.) - SPACER, 1.00 OD x .390 ID x .395 THK 660 NYLON

(2EA.) - STEEL FLAT WASHER, 3/8 TYPE A—WIDE

(2EA.) - STOVER NUT, 3/8-16

(1EA.) - Paint, Rust-Oleum Protective Enamel Spray Gloss Black
(Not Included W/ Parts Kit)

8.1 Align The Step - Align the step mounting hole at the RH side of the step. If necessary insert the 1/4" Drift Punch through the linkage hole as an alignment guide.

8.2 Insert Spacer - Insert Nylon Spacer between linkage arm and the upper step plate assembly.

8.3 Insert Bolt (3/8" x 1.25" long bolt to replace 08 rivet) - From outside of the linkage arm, insert the 3/8" Hex Head Bolt through the linkage arm hole, the Nylon Spacer and the upper step plate assembly hole. This should place the threaded end of the bolt toward the interior of the step assembly.

INSERT WASHER / BOLT



APPENDIX "B" (CONTINUED)

8.4 Install Flat Washer and Lock Nut - Install the 3/8" Flat Washer and 3/8" Stover Nut onto the end of the 3/8" Hex Head Bolt. Tighten the Stover Nut to 12-16 ft. lbs. of torque for proper step operation.

INSTALL FLAT WASHER / NUT



9. Refinish Paint - Refinish painted surface at the repaired areas of the step, as needed.

