

ENGINEERING MEMO #400

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TO: Memo Distribution

FROM: R. E. Orwig

SUBJECT: SPECIAL MODIFICATIONS FOR NEW YORK CITY TAXI FLEETS.

Per request of some major New York City Taxicab Fleet customers, and the concurrence of Management, we are making numerous design changes to increase the durability of our vehicle due to the severe taxicab duty cycle of the New York City environment.

A few of these changes will be "across the board" and will become standard features of our vehicles, but for the most part these changes will be limited to a "New York City Taxi" option. The reason for this is primarily because of the added weight required to accommodate the strengthened areas. Very close attention must be given by production personnel when building these cars to be sure that each special requirement is done as specified.

The areas affected - and of which will become mandatory - for all New York City Taxicabs are as follows:

FRAME ASSEMBLY

A special Frame Assembly (#707305) with numerous areas reinforced will be required. These frames will all be the rearward steering type with rear mounted battery. The changes peculiar to this special frame are:

1. 96085 -- REINFORCEMENT-REAR SHOCK BRACKET.  
Four (4) of these are being added (2 at each shock mounting bracket) for added strength.
2. 708345 -- REINFORCEMENT-SIDE RAIL(CENTER OUTER)  
Two (2) of these are being welded (1 on each side of frame) to the frame side rails in place of 706899 & 706900 standard production reinforcements.
3. 708349 -- BRACKET-BODY FRAME-CENTER(MOD.)  
Two (2) of these are used (1 on each side of frame) in place of 702011 standard production brackets (Note: 708349 is made from 702011).

4. 708343 -- REINFORCEMENT-FRAME X-MEMBER.  
One (1) of these is welded to the L.H. X-Member only. (Note: This is a new additional part).
5. 708353 -- PLATE-FRAME X-MEMBER REINF.  
One (1) of these is welded to the L.H. X-Member only. (Note: This is a new additional part).
6. 707256 -- PLATE ASM-RR ENG SUPT FRAME  
708352 -- PLATE-ENG SUPT FRAME  
One each of these are used in place of 705501 & 706565 standard production parts. (Note: (2) holes must be drilled thru lower flange of X-member after welding 707256 Plate Asm. to frame).
7. 706982 -- ANGLE-FRAME RAIL  
One of these is welded to the R.H. Frame Side Rail after the 708345 Reinforcement is welded in place. (Note: This is already of standard frame option - but must be included on this special frame asm.)
8. 708341 -- REINFORCEMENT-UPPER CONTROL ARM BRKT.  
Four (4) of these are welded (2 on each side) to the Up Control Arm Brackets. (Note: This is a new additional part).
9. 708399 -- BAR-FRONT CHASSIS SKID  
Two (2) of these are welded to the #1 and #2 frame tubular crossmembers. These are new designs made of high strength bar section steel in place of the previous tubular design. (Note: This is a standard frame option -- but must be included on this special frame assembly).
10. ~~708396 -- PLATE STRG IDLER BRKT UPR~~  
~~708397 -- PLATE STRG IDLER BRKT LWR~~  
Increased thickness from .187 to .250.
11. ~~442828 -- NUT 3/8-24 HEX LOCK TYPE HLT~~  
Use Locknuts in place of ~~120369 Nut and 120382 Lockwasher~~ for attachment of 707068 Tube Asm. to Frame, Brkt Asm.
12. 708367 -- PLATE-FRAME RAIL REINF  
One(1) added to LH Frame Side Rail to cover manufacturing slot. (New additional part)

FRONT SUSPENSION

1. A new front coil spring (#708355) made of special alloy steel, larger diameter bar and higher rate will be used on all New York City Taxis. This spring will replace the #706706 Spring currently being supplied on NYC taxis.
- ~~2. The 706698 ANGLE #2 FRAME CROSSMEMBER  
Has been removed which increases the road clearance approximately 1.00 inch.~~
3. 708351 -- PLATE-LOWER CONTROL ARM ASM  
Four (4) of these plates replace the (8) #120389 plate washers currently used at the lower control arm to ball joint attachment. This is a "across the board" change.-- but, absolutely must be on New York City Taxis.

REAR SUSPENSION

1. 707250 -- SPRING ASM-REAR (145# H.D.)  
This spring has a heavier main leaf and replaces #703000 current spring. This is an "across the board" change - but production must make sure that New York City Taxis have these new springs.

OTHER MISCELLANEOUS CHASSIS REVISIONS

1. 707257 -- BAR ASM-REAR ENG SUPT (MOD.)  
This bar assembly must have a .42 dia. hole drilled for additional bolt attachment to the frame. This part is made from the current 705981 Bar Asm.
2. 708344 -- SUPPORT-REAR MOUNTED BATTERY TRAY-SIDE  
707252 -- TRAY ASM-BATTERY(NYC TAXI SPL)  
This is a special battery tray for the New York City Taxis. It has an additional support leg that must be screwed to the rear floor panel (Hole drilled at assembly).
3. RADIATOR OVERFLOW CONTAINER MOUNTING  
The coolant recovery bottle will be attached to the inner fender with four (4) bolts, washers and nuts in place of the standard sheet metal screws. Four 9/32 diameter holes must be drilled at assembly. The new attaching parts are:  
121887 -- BOLT-1/4-20 x 3/4 HEX HD  
120392 -- WASHER-9/32 x 5/8 PLAIN  
271172 -- NUT & EXT TOOTH L/W ASM- 1/4-20  
ABOVE REPLACES:  
9425830 -- SCREW-1/4-14 x 5/8 T.H.C.R.
4. HORN RELAY RELOCATION  
The horn relay has been relocated from the inner fender (engine compartment) to inside the vehicle below the fuse block on the dash panel. This is an "across the board" change -- but absolutely must be made on New York City Taxis even if it requires rework of present wiring. Refer to Engineering Memo #399 for specific details.
5. 708357 -- CLIP-15/16 DIA CLOSED x 11/32 HOLE  
This clip replaces a smaller clip #702221 and is an "across the board" change.
6. 707306 -- LINK ASM-STEERING CENTER(MODIFIED)  
This Center Link has the addition of a 360° weld at the left hand (Steering Gear) side.

BODY REVISIONS

## 1. RADIATOR SUPPORT

The radiator support assembly has been strengthened at the lower corners and is special for New York City Taxis only. The new parts are:

653416 -- PANEL ASM-RAD SUPT WELDED(SPL)  
 648224 -- REINF-RAD SUPT SIDE PANEL 2 Req'd  
 648230 -- REINF-RAD SUPT LOWER 2 Req'd

ABOVE REPLACES:

651835 -- PANEL ASM-RAD SUPT-WELDED

## 2. FRONT FENDER-INNER

The Front Inner Fender will have a reinforcing patch (double metal thickness) in the area of the radiator support and upward above the hood line -- also extending rearward approximately 16 to 18 inches. The part number of this special reinforcement is 648227 LH & 648228 RH.

Also, on the inner fender upper rear a reinforcement is being added on each fender (double metal thickness). The part number of this special reinforcement is 648235 (2) req'd.

## 3. FRONT FENDER-OUTER

A fabrication change to the upper, rear inner corner of the fender is being made to lessen probability of cracks originating and propagating from this area. This corner will be "Balled" to a larger radius.

## 4. FRONT FLOOR PAN

A reinforcing plate will be added (double metal thickness) to each side of the front floor pan at the location the cowl bracket welds to the floor. The part number of this reinf. is 648234 (2) req'd.

## 5. BODY MOUNTING-FRT FLOOR OUTER

A cup washer will be added to the front floor outer body mounting location to double the metal thickness in this area. The part number of this part is 648229 (2) req'd.

**BODY REVISIONS** (Continued)

6. RADIATOR SUPPORT SIDE PANEL - RH  
The 3.20 x 4.56 "Knock-out" has been removed from this panel (#648226) for all L6 engine installations. This will increase strength and is an "across the board" change.
7. MAT - REAR FLOOR.  
A new .125 gauge 1021 SBR RR Flr Mat (648246) for N.Y.C. Taxi only.