

ENGINEERING MEMO #303

(Replaces Memo #164 of 12-6-66)

TO: Memo Distribution

FROM: R. E. Orwig

SUBJECT: PRODUCTION LINE PROCEDURE FOR MOUNTING TORQUE CONVERTER,  
CONVERTER HOUSING AND TRANSMISSION TO ASSURE CONCENTRICITY  
OF ALIGNMENT

The first eleven (11) of the following nineteen (19) steps are done with the engine on end (vertical position).

1. Using the multiple head drill fixture provided, drill three (3) 13/32" diameter holes in engine flywheel, -- ref. SK-2922.
2. Remove burrs from both sides of drilled holes with deburring tool and blow off with compressed air.
3. Install converter pilot bushing (#702082) in crankshaft pilot recess using bushing driver provided.
4. Mount torque converter assembly to flywheel using three (3) #626883 special Hex. Serrated Washer Head Machine Screws (3/8-24 x 1/2"). Tighten only enough to secure parts at this time. (See step #18 for final tightening torque).
5. Clean and inspect engine rear face and converter housing front face for paint, nicks or burrs that would interfere with proper mating. Repair as necessary or reject.
6. Position converter housing over engine dowels and secure with six (6) on 6-cyl., seven (7) on 8-cyl., 3/8-16 x 1-1/4 Cap Screws. Tighten to 20-30 foot pounds torque. ~~at this time.~~
7. Drive out and discard existing dowel pins furnished with engine.
8. Install "bore and face" indicator tool on torque converter drive hub.
9. Indicate converter housing bore and face by rotating engine 360°, and if necessary, reposition housing by tapping with lead hammer until housing bore is within .005 T.I.R. (allowing a minus .005 at six o'clock). NOTE: Dial indicator anvil should always be opposite the side being struck. Also rear face must be within .005 T.I.R. while rotating engine 360°. If necessary, shim at mounting bolts as required. Recheck by again rotating engine 360° making sure dial indicator returns to zero and recheck torque on housing mounting bolts.

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10. Ream the dowel pin holes to new oversize of .656 diameter and install two (2) #702348 dowel pins.
11. Loosen the three (3) torque converter to flywheel mounting screws so that the converter will be free to shift slightly in the mounting holes, if necessary, when the transmission is installed.
12. Remove engine from drilling fixture and move to transmission mounting area.
13. Position engine assembly on engine conveyor line.
14. Install two (2) pilot guide pins for transmission mounting in upper LH and RH holes in converter housing.
15. Install transmission onto pilot guide pins using care to assure correct engagement of converter drive tangs with transmission front pump.
16. Install two (2) lower 7/16" transmission mounting bolts and lockwashers, remove guide pins and install upper bolts and lockwashers and torque all four bolts to 40-45 foot pounds.
17. After installing starting motor, turn engine over 2 or 3 times to allow self alignment of torque converter to transmission.
18. Using access hole in LH side of torque converter housing, tighten the three (3) torque converter to flywheel mounting bolts to  
Ⓐ \*45-55 foot pounds.
19. The above procedure should be fully inspected no less than once every tenth installation.

Ⓐ \*45-55 Ft.Lbs. Effective Chassis #23623