CASTLEMAINE ROD SHOP
SINCE 1976

AP108a

BA - BF 6CYL TO GM TURBO & V8 POWERGLIDE TRANSMISSIONS

READ <u>ALL</u> INSTRUCTIONS BEFORE STARTING:

You will need some loctite metal adhesive to complete this adaption. Loctite 243 super nut lock and loctite 641 bearing mount a 10ml bottle is plenty.

This kit allows the fitting of a GM Turbo Hydro 400/700 automatic transmission to a Ford 6 cylinder as fitted to BA-BF Falcons. It uses the original Ford flex plate/drive plate. The starter motor is a special "Hi torque starter" made to suit this allocation. The original Ford starter cannot be used.

<u>Kit check list</u>:

1 off Adaptor plate fitted with dowels-CRS1080 – AP 108A -dowel CRS0018 – dowel 4
1 off Special stepped dowel-Part No. CRS1129- Studs 08 - Replaces motor dowel
3 off M12 x 1.75P x 30 long countersunk head unbrako's-adaptor to motor
1 off M12 x 1.75P x 50mm long reduced diameter head counter sunk unbrako
- CRS1128 – BOLT 19 - Adaptor to motor
1 off 3/8" UNC nut with flat and spring washer-for special stepped dowel
1 off Torque converter locator – CRS1126 – TC LOCATOR 19
1 off Aluminium drive plate adaptor – CRS1125 – DP SPACER 12
3 off Special modified 3/8" UNC x ¾" long unbrako bolts-drive ring to torque converter – CRS1127 – BOLT 18
4 off 3/8" UNC bolts x ¾" long – flex plate to drive ring
4 off 3/8" UNC x 1-1/4" bolts and flat and spring washers – trans to adaptor
2 off 3/8" UNC x 1-1/2" bolts and flat and spring washers – trans to adaptor
2 off 5/16" UNC x 1-1/4" long bolts and spring washers – starter to adaptor
1 off Special gear reduction starter motor – STARTER 11
(OEX - RXS419) Must change pinion to 9t x 25mm

FITTING INSTRUCTIONS:

Step 1: Fit adaptor plate to transmission using the dowels for location. Fit bolts AND WASHERS and tighten fully. Check to see if these bolts protrude past the face of the adaptor. If they do you will need to carefully shorten the threads until they do not protrude when fully tightened. (1/32" or 1mm behind the surface of adaptor is enough – NO MORE) Using a marking pen and number each bolt to a hole so they go in the same hole later. Remove adaptor from the transmission.

Step 2: Fit starter motor to adaptor plate and bolt into position using the (2) off 5/16" x 1-1/4" long bolts and spring washers. Check to see if thread protrudes past the face of the adaptor, if it does shorten the bolt so it does not protrude when tight. Remove bolts and starter.

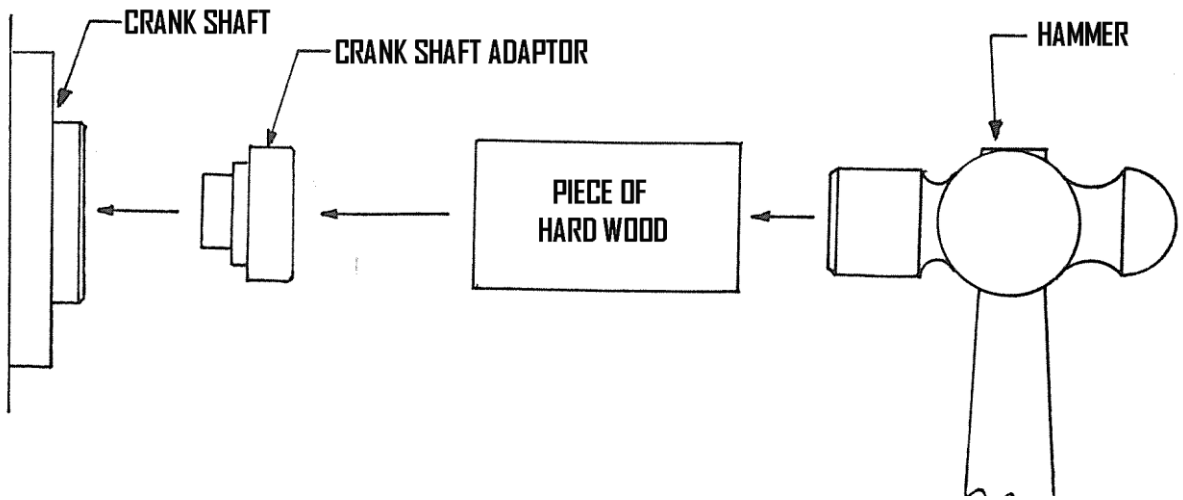
Step 3: Modifications to location dowels in fold motor.

(a) You will need to remove the "hollow" location dowel from its hole in the "starter side" of the block. Clean the hole and fit the special stepped dowel supplied with this kit, you should be able to fit the thread on the dowel through the hole in the block with the first step locating in the hole that the hollow dowel came out off, you should be able to turn the stepped dowel by placing a screw driver in the slot in the end of the thread. If it won't turn clean hole slightly with emery paper. Fit nut and washer but DO NOT tighten – you will need to rotate the stepped dowel later.

(b) The hollow dowel in the opposite side of the motor needs to be shortened so that it protrudes 5mm only. Make sure you remove all sharp edges so it does not damage the adaptor plate.

Step 4: Make sure the back of the motor is clean then fit the adaptor to the motor. Use the 12mm counter sunk head unbrako's to bolt into position. The long unbrako with the reduced head goes in the dowel hole on the drivers side.
Recommended torque seating for these bolts is 82N-m or 725 inch – lbf. Use Loctite type 243 on these bolt.

Step 5: Bolt the original Ford flex plate to the crank. Clean crank and remove spigot bush if fitted. Fit the crankshaft adaptor to the crankshaft using Loctite type 641 to hold into position.



Step 6: Bolt the aluminium drive ring to the torque converter, using the 3 off modified 3/8" UNC x ¾" long unbrako. It is very important that this ring is set true to the snout of the torque converter. Refer to the set up drawing for correct procedure. Use Loctite type 243.
NOTE: You have been supplied with 3/8" UNC unbrako's for this operation. Some Torque converters have 3/8" UNF threads - if you have one of these you will need to purchase 3 off 3/8" UNF x ¾" long 1960 series unbrako bolts and modify them by chamfering the head the same as the ones supplied. C.R.S. can supply these if needed.

THIS IS AN IMPORTANT OPERATION.

Step 7: Fit the torque converter fully onto the auto, it should measure 9mm from the face of the transmission to the face of the aluminium drive ring when it is fully on. You may need to carefully rotate the torque converter and keep trying it on until it goes fully on and is 9mm behind the face of the transmission.

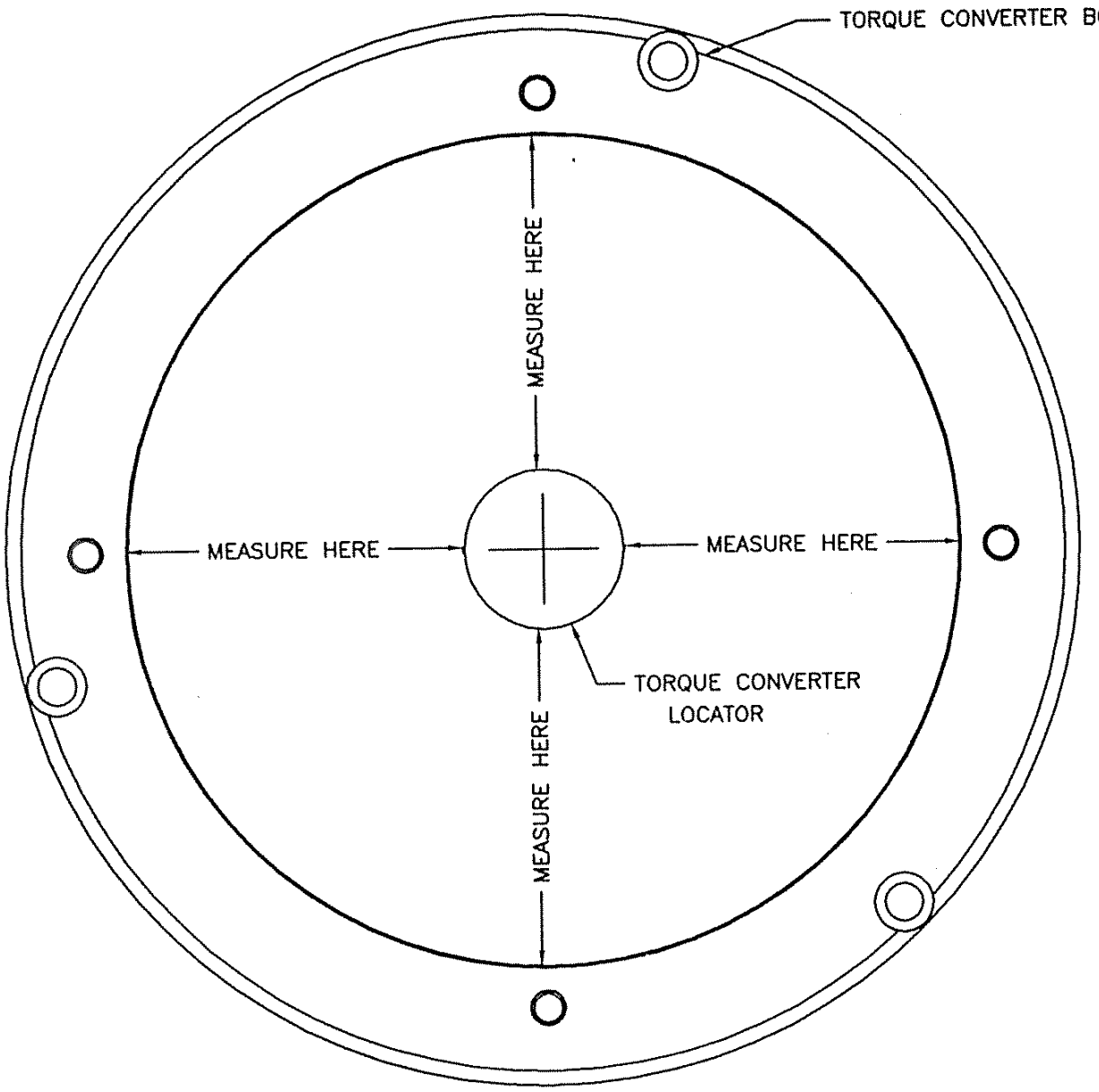
Step 8: Carefully fit the auto to the adaptor making sure the torque converter does not slip forward. Position on dowels and bolt into place, taking care not to use force as the trans casing in only thin and may break. Use the bolts you numbered in the same holes. Use a screw driver to rotate the stepped dowel so a bolt will go through the transmission into the offset hole in the stepped dowel, do not tighten this bolt yet.
Tighten the nut on the stepped dowel then tighten the bolt in the trans. You may need to use more washers on this bolt if it "bottoms out" before tightening onto the transmission.

Step 9: Use the 4 off 3/8" UNC x ¾" long bolts to bolt the drive ring to the flex plate – use Loctite 243 on these bolts.

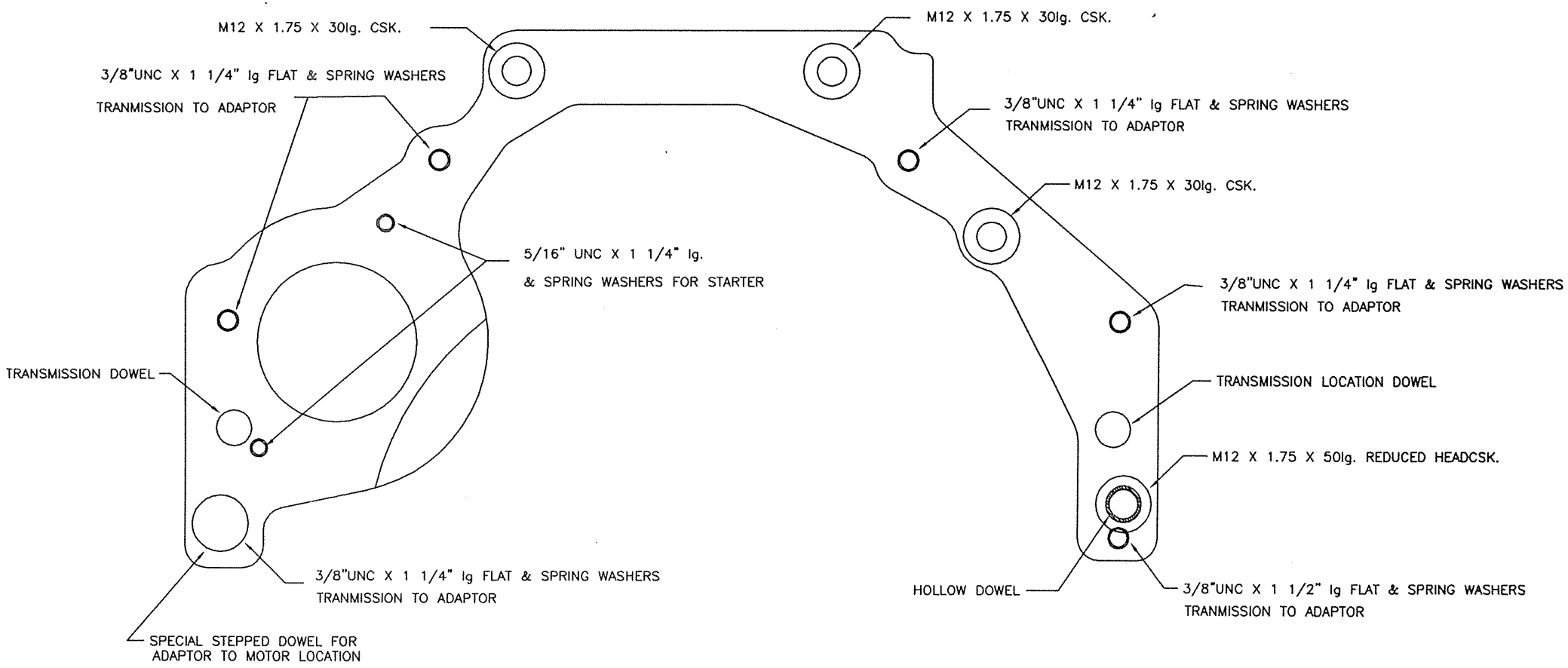
Step 10: Bolt starter to adaptor with the bolts you shortened in Step 2.

Step 11: The original Turbo 400/700 dust cover should fit with a small amount of modification.

Step 12: Transmission/motor assembly is ready to be fitted to vehicle engine mounts. Trans mounts etc. can now be made.



TO SET ALUMINIUM DRIVE RING TRUE TO TORQUE CONVERTER LOCATOR , CAREFULLY FOLLOW THESE INSTRUCTIONS * BOLT THE RING TO THE TORQUE CONVERTER , REFER TOP INSTRUCTION No. 6 . BOLT INTO POSITION FIRMLY BUT NOT TOO TIGHT .MEASURE THE DISTANCE IN 4 PLACE AS SHOWN WITH VERNIER CALIPER OR MICROMETERS AND ADJUST CAREFULLY WITH A SOFT FACE HAMMER UNTIL THE SAME MEASUREMENT IS OBTAINED IN ALL 4 PLACES , THESE MEASUREMENTS NEED TO BE WITHIN .05mm (.002").
TIGHTEN THESE BOLTS FULLY AND THEN CHECK THAT THE RING HAS REMAINED IN POSITION.


M12 X 1.75 X 30lg. CSK.
3/8"UNC X 1 1/4" lg FLAT & SPRING WASHERS
TRANMISSION TO ADAPTOR
5/16" UNC X 1 1/4" lg.
& SPRING WASHERS FOR STARTER
TRANSMISSION DOWEL
3/8"UNC X 1 1/4" lg FLAT & SPRING WASHERS
TRANMISSION TO ADAPTOR
SPECIAL STEPPED DOWEL FOR
ADAPTOR TO MOTOR LOCATION
M12 X 1.75 X 30lg. CSK.
3/8"UNC X 1 1/4" lg FLAT & SPRING WASHERS
TRANMISSION TO ADAPTOR
M12 X 1.75 X 30lg. CSK.
3/8"UNC X 1 1/4" lg FLAT & SPRING WASHERS
TRANMISSION TO ADAPTOR
TRANSMISSION LOCATION DOWEL
M12 X 1.75 X 50lg. REDUCED HEADCSK.
HOLLOW DOWEL
3/8"UNC X 1 1/2" lg FLAT & SPRING WASHERS
TRANMISSION TO ADAPTOR