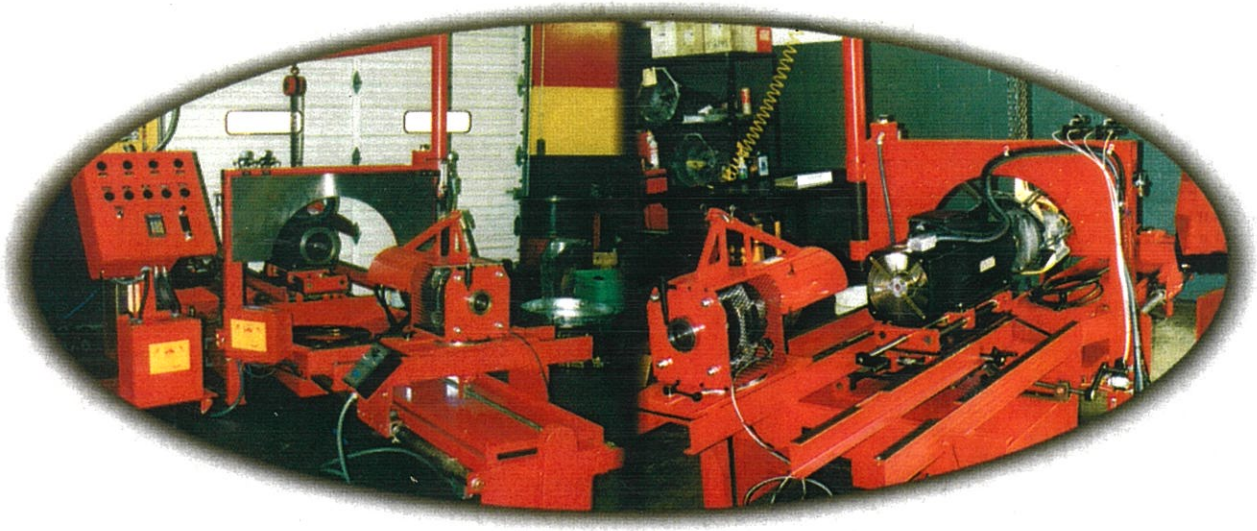
TURBO-TANK®

PRODUCTS

GET THE POWER OF THE TANK



TURBO TESTER TT 2130-DVD

THE 21st CENTURY ROAD TEST SIMULATOR IS HERE NOW

TRANSMISSION/CV TESTER

BALDOR

VECTOR DRIVE & MOTOR

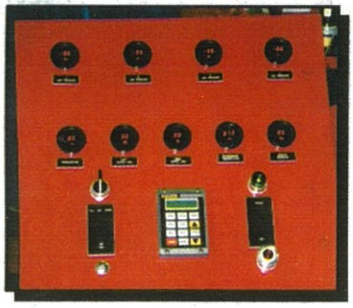
NO OTHER DYNO IS THIS EASY TO USE!

Check Out the Advantages!

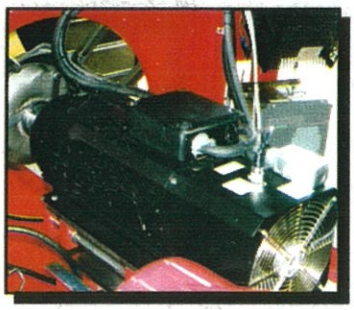
- AFFORDABLE
- TEST FWD & RWD
- DOMESTIC & IMPORTS
- GM TO HONDA
- LEFT & RIGHT HAND DRIVE
- TRANSAXLES
- NO FLAMMABLE FUELS
- NO DANGEROUS EXHAUST
- ONE UNIVERSAL MASTER PLATE
- ONE UNIVERSAL FLEX PLATE
- ALL DIGITAL GAUGES - COMPUTER COMPATIBLE
- SWITCH FROM RWD TO FWD IN LESS THAN 3 MINUTES
- COMPLETE ON SITE TRAINING

G-TEC®

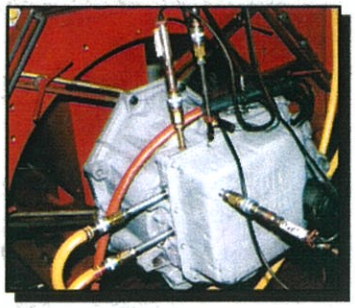
417-725-6400 • 800-725-6499 • P.O. BOX 1079 • NIXA, MO 65714 • www.g-tec.com



ALL DIGITAL GAUGES AND PUSH BUTTON ELECTRONIC CONTROLS

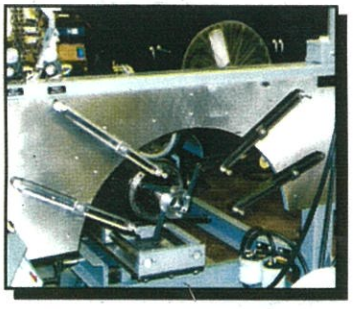


EXCLUSIVE WHISPER DIRECT DRIVE AND VECTOR MOTOR

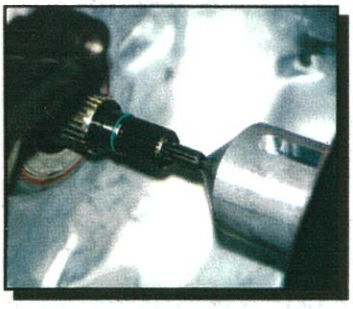


PRECISION TRANSDUCERS FOR COLLECTION OF ACCURATE DATA

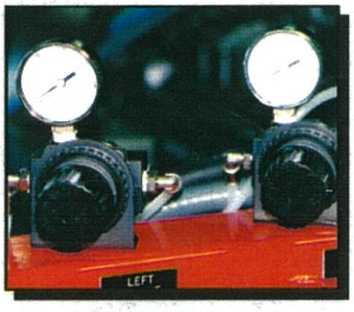
OWNERS MANUAL AND ALL THE TOOLING NEEDED FOR THE DYNO



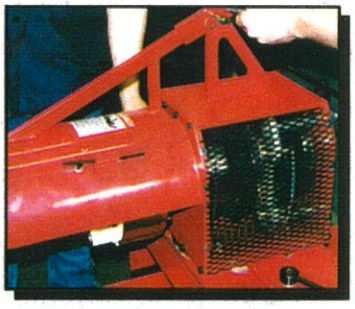
UNIVERSAL MASTER PLATE, CONVERTER SPIDER DRIVE, TRANSMISSION HOLDING ARM ASSEMBLY, FILL AND DRAIN FILTERS & LINEAR MOTION MOTOR ALIGNMENT SYSTEM, FLOW METER, & E-STOP BUTTON



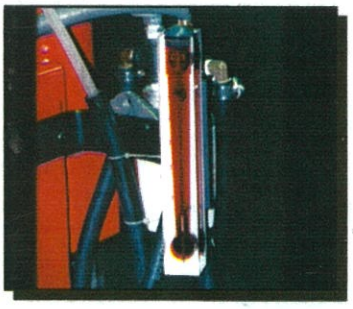
DEAD CENTERING TRANSMISSION ALIGNMENT TOOL



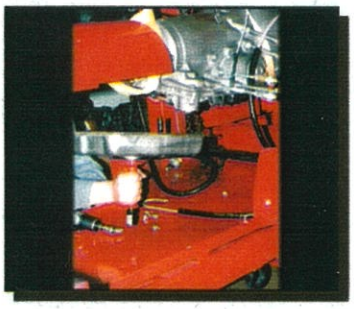
LEFT & RIGHT LOAD CELL ADJUSTMENT CONTROLS



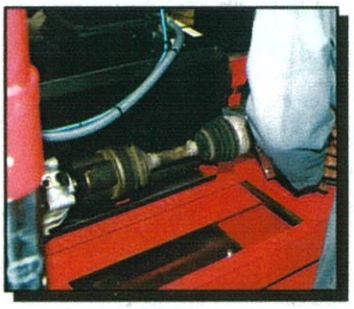
VARIABLE LOAD CELL AND INERTIA DISK



FLOW METER

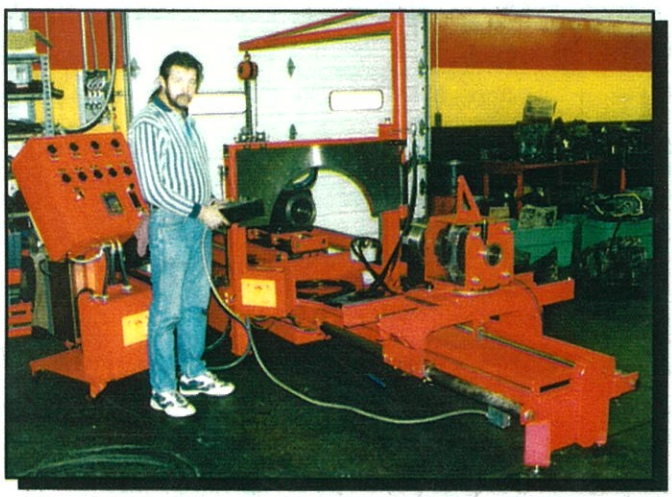


EASY ACCESS TO VALVE BODY, NO NEED TO TURN THE TRANSMISSION OVER



CV TESTING CAPABILITY

CUSTOM RWD DRIVE SHAFTS AND OEM CV USED TO CONNECT THE TRANSMISSION TO THE LOAD CELLS



OPTIONAL REAR LOAD CELL DRIVE

G-TEC®

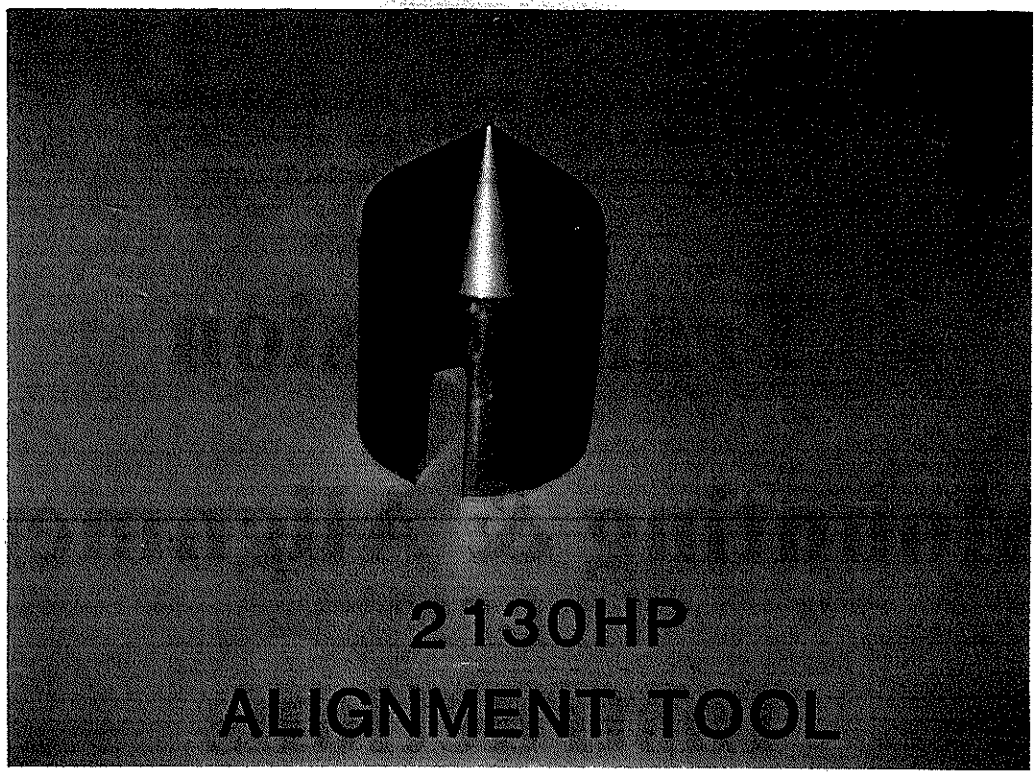
P.O. BOX 1079
NIXA, MO 65714
417-725-6400
800-725-6499

P.O. Box 1079 • 408 S. Main St. • Nixa, MO 65714
417-725-6400 • 800-725-6499 • Fax 417-725-3577
www.g-tec.com • glassinger@netscape.net

Transmission Mounting & Alignment Instructions for the G-Tec TT2130-DVD Dyno

P.O. Box 1079 • 408 S. Main St. • Nixa, MO 65714
(417) 725-6400 • (800) 725-6499 • Fax (417) 725-3577

2130 HP
ALIGNMENT TOOL



OUR NEW ALIGNMENT TOOL WILL ALIGN THE MOTOR TO THE TRANSMISSION FASTER AND MORE ACURATELY THAN DOWEL PINS, THUS IMPROVING THE ALIGNMENT OF THE DIRECT DRIVE MOTOR TO THE TORQUE CONVERTER.

2130HP REPLACEMENT PARTS PRICE LIST

• ALIGNMENT TOOL #GC03204A	**$75.00**
• GM SPACERS	**$ 4.00 EA.**
• FORD STUDS - STANDARD SET (4)	**$150.00 / (4)**
• FORD STUDS - METRIC SET (4)	**$150.00 / (4)**

Visit us at www.g-tec.com (coming soon)
or e-mail us at TurboTankProducts@netscape.net

TURBO-TANK PRODUCTS
GET THE POWER OF THE TANK
Phone 417-725-6400
24 Hour FAX 417-725-3577
800-725-6499
123 South Main, Nixa, MO 65714
Division of G-TEC

TURBO TESTER 2130HP MAINTENANCE SCHEDULE

1. CHECK ALL OUTPUT SHAFTS FOR DAMAGE AND LUBRICATE ALL U-JOINTS.
2. CHECK ALL FLUID FITTINGS FOR LEAKS AND TIGHTNESS.
3. CHECK AND LUBRICATE ALL CARRIER BEARING (6). TWO EACH IN LOAD CELLS AND TWO IN DRIVE HOUSING.
4. CHECK AND LUBRICATE FRONT AND REAR MOTOR BEARINGS (2).
5. CHECK AND LUBRICATE FRONT AND REAR LOAD CELL TRACKS (4).
6. CHECK AND LUBRICATE LEFT AND RIGHT MOTOR ADJUSTMENT RAILS (4).
7. CHECK AND LUBRICATE ALL MOTOR POSITION CRANKS AND DRIVE SCREWS.
8. CHECK ALL MOUNTING ARMS AND TRACKS BEFORE EACH USE. BE SURE THAT THERE ARE NO BURS OR DAMAGE ON THE EDGES.
9. CHECK CONDITION OF BRAKE PADS AND ROTORS.
10. CHANGE COOLER LINE AND ALL ATF TANK FILTERS EVERY 200 HOURS OF OPERATION OR EVERY 30 DAYS. USE STP 02827 FILTERS.
11. CHECK ALL SET SCREWS AND MOUNTING BOLTS FOR DAMAGE.
12. CLEAN ATF OIL RESERVOIR AND RECLAMATION SYSTEM EVERY 30 DAYS.
13. CHECK ALL ELECTRICAL CONNECTIONS FOR WEAR AND DAMAGE.
14. DO NOT USE THE DYNO IF YOU NOTICE ANY UNUSUAL VIBRATION.
15. WEAR SAFETY GLASSES AND SHOES WHILE OPERATION THE DYNO.
16. DO NOT WEAR LOOSE FITTING CLOTHING SUCH AS TIES.
17. KEEP LONG HAIR CLEAR OF DYNO.
18. CHECK ALL OUTPUT SHAFTS FOR DAMAGE AND FOR STRIGHTNESS - DO NOT USE A BENT OUTPUT SHAFT!
19. TURBO TANK PRODUCTS AND G-TEC ARE NOT RESPONSIBLE FOR ACCIDENTS RESULTING FROM THE USE OF THIS PRODUCT NOR WILL TURBO TANK PRODUCTS OR G-TEC ASSUME ANY LIABILITY. OPERATE THIS EQUIPMENT AT YOUR OWN

RISK!

Glassingers TransEquipment Co.

P.O. Box 1079 123 S. Main St.
Nixa, Missouri 65714-1079
Phone 417-725-6400 Fax 417-725-3577

TURBO TANK PRODUCTS LIMITED WARRANTY
A DIVISION OF G-TEC

The TURBO TANK PRODUCTS LIMITED WARRANTY states parts of the TURBO TANK PRODUCTS to be free from factory defects in materials and workmanship for a period of one year, (12 months from date of purchase) providing:

1. **WARRANTY REGISTRATION HAS BEEN COMPLETED AND RETURNED TO G-TEC WITHIN 10 DAYS OF RECEIPT OF PRODUCT.**
2. **REASONABLE AND NORMAL USAGE AND OPERATION OF SAID EQUIPMENT IS WITHIN APPROPRIATE STANDARDS AND PROCEDURES.**

This warranty does not apply to any product damaged by improper installation, shipping accidents, misuse or alterations and repairs not performed or authorized by G-TEC. Filters are covered by manufactures applied warranty.
All electronic components are warranted for 90 days from date of purchase. Some items or components, which are supplied by other venders for use on the TURBO TANK PRODUCTS, are warranted by THOSE venders and THEIR warranty will apply.
If any part or parts shall need repair or replacement under the terms of this warranty, the manufacturer shall replace or repair said part/s in the manner here stated:
UPON DISCOVERY OF A DEFECTIVE PART/S, THE EQUIPMENT OWNER SHALL IMMEDIATELY NOTIFY TURBO TANK PRODUCTS (417-725-6400), AND THEN EQUIPMENT OWNER SHALL RETURN SAID PART OR PARTS THERETO AT OWNER'S EXPENSE AS INSTRUCTED BY THE MANUFACTURER. WHEN DETERMINED THAT SAID PART/S IS GUARANTEED PURSUANT HERETO, TURBO TANK PRODUCTS COMPANY SHALL REPLACE OR REPAIR SAID PART/S AND RETURN IT TO THE EQUIPMENT OWNER.
Nothing contained herein shall create a warranty for customers items used in conjunction with TURBO TANK PRODUCTS or of sai equipment. Further, this warranty shall not extend to any normal wear or usage of the equipment, or if the equipment has been improperly installed.
THIS WARRANTY IS IN LIEU OF ANY OTHER WARRANTY, EITHER EXPRESSED OR IMPLIED. NEITHER G-TEC OR TURBO TANK PRODUCTS IS LIABLE FOR ANY DAMAGE WHICH MAY BE CAUSED BY SAID EQUIPMENT OR OPERATOR, NOR WILL G-TEC OR TURBO TANK PRODUCTS BE HELD LIABLE FOR ANY DOWN TIME, LABOR EXPENSE, DAMAGE TO EQUIPMENT, PERSONAL PROPERTY OR REPLACEMENT COST OF ANY KIND CAUSED BY SAID EQUIPMEN BY ITS OPERATOR.

SAFE OPERATION PROCEDURE

The safe operation is the sole responsibility of the owner/operator. The owner of the TURBO TANK PRODUCT grants permission of its operation to the owners selected operator. It is the owner/operators sole responsibility to maintain said products in a safe operational condition and to train the operator in the safe operation of the said equipment.
TURBO TANK PRODUCTS advises that the equipment owners/operators should complete the mechanical system and operation class which is given by TURBO TANK PRODUCTS. For further information please contact TTP at (417-725-6400).
The safe operation of all said equipment is beyond the control of TURBO TANK PRODUCTS and G-TEC and therefore neither TURBO TANK PRODUCTS or G-TEC can assume responsibility for the safety of the operator or bystanders while said equipment is in operation. However, we have made every possible attempt to insure the safety of the operator. For your own safety do not override, disconnect or bypass the built-in safety switches, power cut-off, or guards.

REV/97

UNPACKING YOUR 2130HP TURBO TESTER

PLEASE CHECK YOUR SHIPMENT AGAINST YOUR CUSTOMER PACKING LIST CAREFULLY AND THEN SIGN AND RETURN ONE COPY TO TURBO TANK PRODUCTS. ANY PARTS WHICH ARE MISSING OR DAMAGED IN SHIPMENT MUST BE REPORTED TO THE CARRIER BY THE CONSIGNEE. IF YOU NOTICE DAMAGE WHICH HAS OCCURRED TO THE CRATES, CHECK YOUR SHIPMENT CAREFULLY AND REPORT THE DAMAGE TO THE CARRIER BEFORE THEY LEAVE YOUR DOCK. ALL SHIPPING DAMAGE CLAIMS ARE BETWEEN YOU AND THE CARRIER AND NOT BETWEEN YOU AND TURBO TANK PRODUCTS OR G-TEC. HOWEVER, WE WILL BE GLAD TO ASSIST YOU WITH YOUR CLAIM AGAINST THE CARRIER ACCORDING TO THE LIMITS OF THE LAW. THE MANUFACTURE CANNOT FILE FOR YOU. YOU MUST FILE FIRST AGAINST THE CARRIER YOURSELF!

ITEMS ON THE PACKING LIST WHICH ARE LISTED AS BACK ORDERED WILL BE SHIPPED AS SOON AS POSSIBLE!

PLEASE ADVISE US PROMPTLY OF ANY SHORTAGES OR DEFECTS!

TURBO TANK PRODUCTS COMPANY
P.O. BOX 1883
NIXA, MO 65714
800-725-6499
FAX: 417-725-3577

THE TURBO TESTER SET UP AND INITIAL HANDLING PROCEDURES

1. OPEN THE CRATE CAREFULLY. The crate contains several cartons. Handle the cartons with caution, as they are fragile. Gauges have glass windows on them. When unpacking cartons, check through the cushioning and packing material to be sure you get all the parts. Some parts are very small.

2. LIFTING AND MOVING: If you must lift the tester, use a fork lift or overhead crane to raise the tester. Use a three strap lifting sling for this operation. Attach strap to center and one strap to each end. Be sure that you DO NOT crimp, bind or cut wiring, air or hydraulic lines on the tester. Do not lift from underneath or damage to the ATF tank and reservoir may occur. If the tester has wheels, these wheels are only used to help move the tester. Remove the bolts to remove the wheels. DO NOT operate the tester with the wheels on the machine.

3. Once the wheels have been removed, use a level to level the tester. Once the tester has been leveled place the rubber casters under each leg. Failure to level the tester and use the rubber casters under the legs could cause vibration.

4. FLOOR PLACEMENT: The tester requires a 12' LONG x 4' WIDE x 10' (if you use the 606 transaxle wing adaptors the unit will now have a center measurement of 8'). Please keep this in mind when selecting a LOCATION for your tester. The right side of the tester can be up close to a wall because all operations can be performed from the left side. The entire left side of tester must have adequate space for operator movement, the control panel (3' wide X 4' tall) and room to swing the 6' boom arm with a transmission in sling. You should provide two or three feet of working space on the front and back of the tester for ease of maintenance.

is the motor end of the tester).

a. Open the large control box which contains the motor's computer controller by turning the two locking screws. Power is not cut off to the motor when control panel is open so use extreme caution for you safety.

b. 220 3 phase:
   L1 MUST READ 110 VOLT
   L2 110/220
   L3 110/220

6. Your unit was tailored to your electric specifications which you gave to your G-TEC REPRESENTATIVE and is to be hard wired to YOUR ELECTRICAL SOURCE. The tester should have its own 100amp service. ALL wiring should be done by a qualified electrician. IMPROPER wiring could result in damage to the motor controller computer. This unit cost OVER $5,000.00. Handle it with care and caution. The controller stores high voltage and a finger in the wrong place could result in serious injury. The controller computer will regulate the motors cycles to provide enough torque and RPM'S to adequately test most transmissions. In short the controller will multiply the hertz, RPM, horse power and torque of the electric motor so that it will drive a C6 with load easily to 2600+ input RPMS.

"PLEASE BE CAREFUL!"

7. The motor controller computer is preset for operation between 0 and 3,000 input RPM'S. FOR MOST TRANSMISSIONS THIS IS A TOP SPEED OF 135 MILES AN HOUR. DO NOT ATTEMPT TO RESET THE CYCLES UNLESS YOU COMPLETELY KNOW HOW TO DO SO. You will find an owners manual for the controller in your operations manual. After you active the controller you will see a read out on the key board information center. Press the function key to read hertz, press it again and you will read motor RPM INPUT. To run in the forward position press the forward key and for reverse press the reverse key. To increase the speed press the up arrow key and to slow down the motor press the down arrow key. To activate the dynamic brake press the stop key on the control key pad. The big red emergency stop button only cuts off the power. It does not apply the dynamic brake!

8. During operation of the tester if you exceed 3,200 RPM'S or 80 AMP LOAD for more then 30 seconds the controller will automatically shut down. If this happens bring the tester to a complete stop and press the RESET button on the controller box to reset the safety overload switch and begin your operation over.

9. ATTACHING THE CHAIN HOIST: Insert the hoist into the hoist holding rings welded to the side of the tester. Next, attach the chain hoist to the roller in the boom arm. Remember that you will use the hoist to lift the transmission and you will also find it necessary to use it to support RWD tail housings during testing.

10. ATTACH THE DRIVE SHAFT OUTPUT SAFETY GUARDS: These steel guards have two studs which hold them to the output housings. These output shaft safety guards MUST be in place when you are operating the tester. This is for your safety. You are provided with 2 guards. USE THEM - FOR YOUR SAFETY - USE THEM.

12. ATF RESERVOIR: The ATF RESERVOIR holding tank is underneath the work table below the drive motor. Pour fresh ATF, approximately 15 gallons, into the drain hole. This is the fastest way to fill the reservoir. The tank should be cleaned once every 30 working days. Replace the STP filters every 30 days.

YOUR TURBO TESTERS IS NOW READY FOR OPERATION!

INTRODUCTION TO ADAPTORS AND MOUNTING INSTRUCTIONS

FROM YOUR SET UP SHEETS SELECT THE FOLLOWING:

1. Determine make & model of transmission to be tested.

2. Select either 4 or 3 arm for use on your spider drive. The number of bolts on the torque converter will determine the number of arms to be used on the spider drive.
   Example: A 350c uses 3 and an AXOD uses 4.

3. Select the proper pilot bushing and insert it into the pilot housing in the spider drive. Failure to do so will cause misalignment and vibration.

4. Bolt spiders arms to torque converter.

5. Select the number of quick disconnect needed.

6. Select the proper cooler line fittings needed.

7. For RWD transmissions select the RWD drive shaft and insert it into the rear load cell. The RWD shaft uses U-Joints. The FWD shafts use CV-Joints.

8. Select the proper output adaptor(s) and insert it into the transmission. On FWD transmissions, this will be an OEM C-V joint. The C-V is both the drive shaft and the output adaptor. BE SURE TO THOUROUGHLY TIGHTEN THE 3-JAW CHUCK!

9. Be sure that the torque converter is properly seated / stabbed in the transmission and that you have selected the proper pilot bushing. Attach the spider drive with the proper pilot bushing and number of arms to the torque converter.

10. Prepare the transmission by removing the brass cooler line fittings and pressure tap plugs. Some brass fittings have been provided. However, due to the large number of various sizes and styles of these fittings, the owner/operator will have to supply any not provided.

11. Mounting arms are used to hold the various transmissions to the center turret. Unlike other testers on the market which use numerous mounting master plates, your TURBO TESTER USES UNIVERSAL MOUNTING ARMS, WHICH WILL HOLD MOST TRANSMISSIONS BY THE BELL HOUSING. Attach the 4 arms to the bell housing. Try to place two at the top, one on each side of the bell housing and two near the bottom or as close to the bottom as possible.

..... **WARNING**: NEVER ATTEMPT TO OPERATE THE TESTER WITHOUT BEING **ABSOLUTELY SURE** THAT THE MOUNTING ARMS ARE CLAMPED TIGHTLY SO THAT THE TRANSMISSION WILL NOT ROTATE AND INJURE THE OPERATOR OR DAMAGE THE TRANSMISSION BEING TESTED. ALWAYS USE 4 ARMS! NOT 2 OR 3, BUT 4!

12. CONVERTER PILOT BUSHING: The converter pilot bushing aligns the converter hub in the center of the spider. Refer to the setup sheet to determine the proper pilot bushing to be used with your converter. Slip the pilot bushing into the converter pilot housing of the spider drive. Always check the converter hub, bushing and housing for damage, paint or burs. Lightly lubricate with ATF to allow easy removal.

13. OUTPUT ADAPTERS & SHAFT GUARDS: RWD's will require one (1) output adapter and FWD's will require two (2) output adapters (CV). The output adapters slide into the transmission and into the 3-jaw chuck (with soft jaws). Again, BE SURE TO THOUROUGHLY TIGHTEN #-JAW CHUCK. This is to prevent an accidental disconnection of the shaft from the transmission during testing. You are provided with two shaft guards. Always be sure that the operator has the proper guards in place to prevent objects from becoming entangled in the drive shafts.

    DO NOT WHERE LOOSE FITTING CLOTHING, LONG HAIR, TIES, OR jewelry WHILE OPERATING THIS TESTER!

14. Now that you have the transmission ready to mount to the tester with spider drive attached, quick disconnects inserted, mounting arms loosely bolted to the bell housing and the output adaptors selected it is time to mount the transmission to the tester.

    a. You can use either a sling or chain to pick up RWD transmission and for FWD transmission we suggest that you use the tongs. It is very helpful if you try to pick up the transmission as level as possible!

    b. Hoist the transmission up and swing it as close to the center of the motor shaft as you can. This will take a little practice. After centering the transmission attach the bell housing arms to the center plate. Thoroughly tighten all mounting arm bolts.

    c. Crank the motor forward. As you do, you may need to fine tune the motor shaft alignment with the up/down or left/right movement controls. The motor shaft must insert smoothly without binding into the spider drive. Crank the motor all the way into the drive spider,and then back the motor crank off about one half turn so that the converter will not hit the back of the bell housing. Then, tighten the Allen screws on the drive spider.

15. Slide the load cells so that they are in line with the transmission output housing. Be sure to tighten the load cell hold down bolts.

16. Insert the chosen adaptor shafts into the load cells and lower the guards.

17. Connect all test lines via quick disconnects and fill with ATF.

CONTROL PANEL:

1. The top four gauges are used for transmission ATF pressure monitoring. Matched to the gauges, are sending units with identifying bands. 1 red band is for gauge A, 2 bands is B, 3 bands is C, and 4 bands is D. They are calibrated from 0 to 300 PSI.

2. Below the top four gauges you will find from left to right:
   a. RPM gauges, used to monitor motor left and right output RMP's.
   b. Digital mile per hour gauge (will adapt to either cable drive or electronic output).
   c. Digital cooler line ATF pressure gauge.
   d. Transmission temperature gauge.

3. The controls and gauges on the bottom row from left to right are:
   a. AMP load meter digital gauge.
   b. Transmission ATF drain and fill pump off/on switches.
   c. Motor controller key pad
   d. Emergence stop button.
   e. Green reset button.

4. Right side of control panel from top to bottom:
   a. Variable load retarder control, used to increase load on transmission during testing. One pound of air equals 40 pounds of load. Your tester has an inertia disk that represents the average load of a automobile. Your variable load adds to this standard load.
   b. Clear flow meter, used to monitor ATF cooler flow.
   c. ATF temperature gauge sensor.
   d. STP cooler flow filter.
   e. ATF "in" cooler line hose with quick disconnect
   f. ATF "out" cooler line hose with quick disconnect
      BE SURE THAT COOLER LINES ARE CONNECTED PROPERLY!
      If you do not get a flow reading or pump pressure reading reverse your cooler lines. CAUTION must be used when removing cooler lines because pressure build up could spray out HOT ATF!

5. LOAD CELL HOUSING: Used to hold variable load cell and inertia disk. There are two housings, one on each end of tester. The left housing is used for front wheel drive transmissions and the right housing is used for rear wheel drive and front wheel drive transmissions right output. Each housing is attached to the transmission by output shafts and output adapters, with the 3-jaw chuck and soft jaws. Each housing is positioned by loosening the hold down nuts and plate and sliding the housing in line with the transmission output drives. TRY TO GET THE DRIVE SHAFTS AS STRAIGHT AS POSSIBLE. They will, however, still work even at a angle, just as if they were used in a car or truck.

6. LINEAR MOTION MOTOR DRIVE: Used to drive the motor output shaft into the spider drive, and to fine tune motor to spider drive final alignment. FORWARD AND BACKWARD, SIDE TO SIDE, AND UP AND DOWN.

SOME BASIC SAFETY RULES TO REMEMBER!

1. ALWAYS PLACE THE GUARD(S) OVER OUTPUT SHAFTS.
2. DO NOT WEAR LOOSE CLOTHING (TIES, LONG HAIR, JEWELRY, etc...) WHILE OPERATING THE TT-2130HP.
3. KEEP BODY PARTS, TOOLS, AND CLOTHING AWAY FROM ALL MOVING PARTS AND ELECTRICAL CONNECTIONS.
4. KEEP FLOOR AND WORK AREA DRY AND CLEAN.
5. WHEN CONNECTING OUTPUT SHAFTS AND OUTPUT ADAPTERS, BE SURE THEY ARE TIGHTENED AND 3-JAW CHUCK IS TIGHTENED.
6. CHECK TO SEE THAT THE OUTPUT ADAPTER IS PUSHED ALL THE WAY INTO THE TRANSMISSION.
7. NEVER RUN THE TRANSMISSION UNLESS THE BELL HOUSING IS SECURED TO THE MOUNTING ARMS, AND THE ARMS ARE SECURED TO THE CENTER PLATE.
8. NEVER OPERATE A TESTER IF YOU SENSE ABNORMAL VIBRATION OR NOISE EITHER IN THE TRANSMISSION OR THE TESTER.
9. STAY CLEAR OF THE OUTPUT DRIVE SHAFT AREA WHEN TESTER IS IN OPERATION.
10. DO NOT DISCONNECT THE COMPUTERIZED HIGH RPM/OVER LOAD AUTO-CUTOFF.
11. NEVER USE THE TESTER WHILE UNDER THE INFLUENCE OF DRUGS, ALCOHOL OR MEDICATIONS.

TROUBLE SHOOTING THE TURBO TESTER

VIBRATION:

1. Bent output shaft(s) or spider arms, transmission output shaft or case may be bent or damaged. Check U-joints or CV's for damage. Check the torque converter for damage or poor alignment.
2. Loose mounting arms, spider arms, converter bolts, or output adapter. Missing or wrong pilot bushing.
3. Tester may not have been leveled properly. Missing or worn out rubber leg casters.
4. Worn out u-joints, output shafts, or adapters.
5. Center turret plate or motor out of alignment. Must be square.
6. Linear motion motor unit may not be lined up properly.

MOTOR WILL NOT RUN:

1. Press the green button to reset the safety overload/over speed safety circuit.

2. Check main electrical circuit.

3. Check fuses or junction box.

5. Check to see if the EMERGENCY stop button is in the run (pulled out) position.

TURBO-TANK PRODUCTS

NOTE TO THE NEW OWNER/REBUILDER

Dear Owner/Rebuilder:

Thank you for purchasing the Turbo Tester. We are confident that the TT-2130HP will help you achieve your goal of having the best rebuilt transmissions in your area. No equipment can replace your years of know how and hands on experience. It has taken a lot of practice and patience for you to reach your current skill level, so be patience and practice with your new tester. The TT-2130HP is a tool which will extend your own senses and ability to detect transmission faults. At times you can be overwhelmed by all the information the TT-22130HP is giving you. Like any high tech tool, the TT-2130HP will take practice too. Soon you will be able to determine the driveability of most transmissions and locate a transmission fault before you install the transmission back into your customers car. So lets just review the basics before we get started.

1. Read or review your factory service manual before you work on any transmission or use any equipment. This manual is not designed to take the place of your factory manuals or procedures.
2. Be clean. Be clean. Be clean. Dirt will cause more come backs than faulty workmanship. We cannot emphasize this point enough. Especially with the new electronically controlled transmissions. Clean everything. All work areas, floors, transmission inside & out, valve bodies, tools, and equipment. Be sure that you flush the transmission cooler lines with a Turbo Tank flusher and that you use a cleaning solution that is designed for transmission part cleaning like our NONFLAMMABLE 229 POWDERED DETERGENT.
3. Did you flat file: valve bodies, pumps, cases, flywheels etc?
4. Did you check your pump gear clearances?
5. Did you soak your planetarias and your friction material?
6. Did you check your planetarias pinion endplay? Did you check it for side motion?
7. Did you replace your steels or resurface them by use of a TT-vibratory parts cleaner?
8. Did you resurface the drum race which the band rides on?
9. Did you replace ATF oil control rings?
10. Did you double check all new rubber rings for proper fit?
11. Did you replace all support bushings?
12. Did you lubricate all thrust washer and bushings?
13. Did you lubricate the pump?

14. Did you pre-fill the torque converter?

15. Did you use factory service manuals to verify specification?

16. Did you double check the clutch and band clearances?

17. Did you double check the unit endplay? Did you use the gauge?

19. Did you use a torque wrench to reassemble the valve body and pump?

On the following page you will find a quick chart which will help you find problems through the use of the pressure gauges on the TT-2130HP Make a copy of this chart and place it where the operator can use it for a quick reference guide. Your operator must be able to read and use all the gauges in order to receive the maximum benefits of the TT-2130HP. In addition to the 4 pressure gauges the TESTER also has:

1 cooler line pressure gauge

1 cooler flow pressure meter

3 RPM gauge - LEFT, RIGHT, MOTOR

1 MPH gauge

1 transmission temperature gauge

1 load AMP meter

1 variable load meter

All of these instruments will give you vital information, However the 4 pressure gauges will be your best indicator of most transmission faults. So please review the following chart at the start of your test procedures.

REVIEW OF SYMPTOMS AND PROBLEMS
(mainline)

When all pressures are low at slow idle, it usually indicates a potential problem with the pump, pressure regulator, filter, low fluid or internal leaks. Next, check pressure at fast idle. Now if the pressure is normal the problem is more than likely a worn pump.

Internal leakages will be indicated in a particular range. A forward clutch leak would have normal pressure in P, R, & N. However, your forward ranges will have low pressure.

Direct clutch leaks will be evident when the mainline pressure drops as the transmission shifts to 3rd and low pressure is evident in R because in most transmissions the direct clutch is on in R & 3rd.

Sometimes the only problem with the customers transmission is a dirty or restricted filter. This problem will show up as a gradual drop in pressure at higher input RPM'S. The filter is restricting the amount of ATF the pump needs to draw.

If the regulator valve is stuck you will see a fixed line pressure. You will have no boost from TV, modulator system or reverse. The pressure will be low with low input RPM'S and high with high input RPM'S.

On the other hand if the pressure is high with low input RPM'S this may indicate throttle pressure or regulator problems. If the transmission case has a throttle pressure tap be sure to take your reading from there. This will tell you if the transmission fault is in the throttle circuit. For the most part GM no longer has a throttle pressure tap so being able to understand your mainline reading becomes even more critical. Now remove the TV plunger and read your mainline gauge. If line pressure returns to normal then you have a TV fault. However, if the pressure does not return to normal you have a regulator fault.

CONVERTER CLUTCH & COMPUTER DRIVEN TRANSMISSIONS OPERATION ON YOUR TURBO TESTER

(The Rat AFI-120 is the perfect companion to the TT-2130HP)*

Use your Rostra Analytical Tool to:

1. control lockup solenoids
2. monitor computer outputs to the transmission
3. monitor pressure switch activity
4. manually control lockup and shift solenoids
5. test for faulty computer drive circuits
6. measure solenoid current draw
7. locate shorts and opens inside and outside of the transmission
8. use the Rat on the bench, on the lift, during the road test and to control the computerized transmission on the dyno

*THE RAT AND ALL RAT PAK units are available through Turbo Tank Products. 1-800-725-6499

6.	87-89	NISSAN VAN		
	89-90	240SX		
	91-93	240SX	13F	
7.	84-89	300 ZX		
	90-93	300 ZX	14F	

VII	EUROPOEAN			
A.	VOLVO			VO1
1.	144,244	F51DOC	RWD	VO2
	264GL			VO3
B.	MERZBEN		RWD	MR1
2.	L PILOT	F50DOC	RWD	MR2
3.	S PILOT	F52DOC	RWD	MR3
C.	BMW/JAG			
4.	4/6	F33DOC	RWD	BJ1
5.	BMW		FWD	BJ2

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GET THE POWER OF THE TANK

TURBO TESTER 2130HP SETUP SHEET

DOMESTIC OUTPUT ADAPTORS FOR THE 2030 TURBO TESTER
(MUST BE USED WITH VARIABLE LOADE CELL)

A.	CHRYSLER:	BUSHING	OUTPUT
1.	904	4D	CHR1
2.	727A,B	4D	
3.	A413,404,470	4D	CV
4.	604,670	4D	CV
B.	G.M.:		
1.	350,350C,700R4 200R4,200,200C TURBO 700R4,200C	10D	GM1
2.	TURBO 400,200	5D	
3.	125 / EAR 440	10D	CV
4.	440 LATE	10D	CV
5.	SATURN	10D	CV
6..	GEO	10D	CV
C.	FORD:		
1.	FMX,C-6,E40D	8D	FD1
2.	C-4,A4LD,C5,AOD	8D	
3.	ATX EARLY	10D	CV
4.	ATX LATE	10D	CV
5.	AXOD	10D	CV

VI. ASIAN IMPORTS OUT PUT ADAPTORS

A.	HONDA:		
1.	84-85 ACCORD 86-89 ACCORD 90-93 ACCORD		CV
2.	84-87 CIVIC 88-91 CIVIC 92-94 CIVIC		CV
3.	84-87 PRELODE CA 85-87 PRELODE FI		CV
4	88-89 PRELODE 90-91 PRELODE 92-94 PRELODE		CV
B.	TOYOTA:		
1.	83-86 CAMRY 87-91 CAMRY 4	13F	TY1
2.	88-91 CAMRY 6 92-94 CAMRY 4	13F	CV
	92-94 CAMRY 6	14F	CV
3.	82-85 CELICA	13F	CV
4.	86-89 CELICA	13F	CV
	90-93 CELICA 4AFE	13F	CV
	90-93 CELICA 6SFE	13F	CV

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5.	84-87 COROLLA		CV	
	88-92 COROLLA		CV	
	93-94 COROLLA	14F	CV	
6.	87-90 TERECL		CV	
	91-94 TERCEL	14F	CV	
7.	83-86 CRESSIDA		CV	
	87-88 CRESSIDA		CV	
	89-92 CRESSIDA		CV	
	86-88 SOPRA		CV	
	89-92 SOPRA		CV	
8.	92-94 PASCO	13F	CV	
9.	86-89 VAN		CV	
	91-94 PREVIA VAN	14F		

C.	MITSUBISH:		CV	
1.	86-89 PRECIS			
	90-93 PRECIS			
	87-88 MIRAGE			
	37-89 MIRAGE			
	DODGE COLT			
	HYUNDAI & KM174	FWD	CV	
2.	89-92 GALANT	FWD	CV	
3.	90-93 ECLIPSE	FWD	CV	
4.	92-94 EXPO	FWD	CV	
5.	87-89 VAN	RWD	CV	
6.	92 DIAMANTE	FWD	CV	
	93-94 DIAMANTE	FWD	CV	

D.	MAZDA:			
1.	86-89 323		CV	
	90-93 323		CV	
	83-87 626		CV	
	88-92 626		CV	
	88-92 626MX6 TURBO		CV	
	93-94 626/MX6/4		CV	
	93-94 626/MX6/6	12F	CV	
2.	88-91 929/MPV 6		CV	
	92-94 929		CV	
	92-94 MX3		CV	
	90-94 PROTEGE		CV	
	90-94 PROTEGE	12F	CV	
3.	86-90 RX7 ROTARY		CV	
	89-93 MPV VAN 4	12F	CV	

E.	NISSAN:			
1.	93-94 ALTIMA	13F		
2.	85-88 MAXIMA	13F	CV	
3.	89-93 MAXIMA	13F		
4.	83-86 PULSAR/SENTRA			
5.	87-90 PULSAR/SENTRA			
	91-94 SENTRA			
	93-94 QUEST			
	87-89 STANZA			
	90-92 STANZA	14F		

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HOW TO USE A PRESSURE GAUGE
QUICK CHART

Remember to always check mainline pressure in all ranges P,R,N,D,3,2,1, etc.

Be sure that you check your manufactures specification for proper PSI readings and be sure that transmission is 140 f. or hotter.

All ranges except P, N, should be checked in both slow and fast idle. As well as WOT forward and max reverse.

SYMPTOM	POSSIBLE PROBLEM
LOW PRESSURE AT SLOW AND FAST IDLE IN ALL RANGES	PUMP, PRESSURE REGULATOR, BLOCKED FILTER, LOW FLUID INTERNAL LEAKS
LOW PSI AT FAST IDLE IN ALL RANGES.	WEAK PUMP, INTERNAL LEAKS WOT LOW PSI WEAK PUMP PROBLEM
LOW PSI IN PARTICULAR RANGE.	INTERNAL LEAKS, FORWARD CLUTCH LEAK WOULD BE NORMAL IN P & R R, L & N LEAK IN LOW REVERSE LOW PSI IN MANUAL 1,2,3, COULD INDICATE VALVE LEAK.
DROP IN PSI AT 3RD LOW PSI IN R	DIRECT CLUTCH LEAK - DIRECT CLUTCH IS USUALLY ON IN 3RD/R
GRADUAL PSI DROP AT FAST IDLE.	PARTIALLY OR DIRTY FILTER
FIXED LINE PRESSURE HIGH/LOW - NO TV, R, MOULDER BOOST	STUCK PRESSURE REGULATOR VALVE LIMP MODE ON OR CHECK BALL STUCK, OR TV CABLE BROKEN
HIGH PSI AT IDLE	PRESSURE REGULATOR OR THROTTLE PRESSURE PROBLEM. CHECK TV LINE
HIGH PSI WOT STALL, DRIVE	PRESSURE REGULATOR OR THROTTLE SYSTEM. IF NORMAL AT IDLE THEN PROBLEM IS IN THROTTLE SYSTEM.
LOW PSI AT WOT STALL	CABLE OR VACUUM SYSTEM PROBLEM PULL TV CABLE OR DISCONNECT VACUUM HOSE. IF PSI IS STILL LOW THEN PROBLEM IS IN THE PUMP OR CONTROL SYSTEM.
WOT STALL REVERSE LOW PSI ALL OTHER RANGES NORMAL	WEAK PUMP.

TRANSMISSION ROAD TEST SIMULATOR
LOCK UP TEST

1. BE SURE THAT YOU HAVE CONNECTED THE YELLOW 12 VOLT + LEAD TO THE + TERMINAL OF THE FEMALE CONNECTOR ON THE SIDE OF THE TRANSMISSION AND THE YOUR GROUND STRAP TO THE - LEAD OF THE CONNECTOR. BE SURE THAT YOU HAVE A GOOD GROUND FROM - CONNECTOR TO TESTER. SEE YOUR AUTOMATIC TRANSMISSION SERVICE GUIDE MANUAL FOR THE CORRECT HOOK UP'S. IF YOU HOOK THESE LEADS INCORRECTLY YOU MAY PERMANENTLY DAMAGE THE LOCK UP SOLENOID. IF THE FUSE ON THE DYNADROME BLOWS YOU HAVE EITHER HOOKED UP THE LEADS IMPROPERLY OR THERE IS A SHORT IN THE WIRING TO THE SOLENOID OR THE SOLENOID IS DEFECTIVE. IN MOST CASES IF THE FUSE BLOWS ON THE TESTER YOU WILL HAVE TO REPLACE BOTH THE FUSE AND THE SOLENOID.

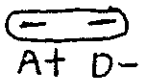
A+ D-

GM EARLY MODELS

GM MID MODELS

GM LATE MODELS

FORD A4LD EARLY



FORD LATE MODELS

RED +
BROWN LOCKUP -
PURPLE OR WHITE 4TH -

2. AFTER YOU HAVE COMPLETED BOTH THE FORWARD AND REVERSE STALL TEST AND THE TRANSMISSION IS AT RUNNING TEMPERATURE (140 TO 180 DEGREE FAHRENHEIT). IN HIGH GEAR OR IN OVER DRIVE PRESS THE SOL TEST BUTTON ON THE TESTER. YOU WILL SEE A BOBBLE, A MOVEMENT IN THE NEEDLES OF THE COOLER LINE, FLOW METER, AND MAIN LINE GAUGES. YOU WILL ALSO HEAR A RPM CHANGE IN THE ENGINE. YOU ALSO MAY NOTICE A TEMPERATURE DROP ON THE COOLER TEMPERATURE GAUGE. LOCK UP OCCURS AT DIFFERENT INPUT AND OUTPUT RPM'S AND IN DIFFERENT GEARS SELECTION DEPENDING ON YOU MAKE AND MODEL OF TRANSMISSION SEE YOUR SERVICE MANUAL.

3. NEXT BRING YOUR TRANSMISSION TO A COMPLETE STOP. LEAVE THE SELECTOR IN DRIVE AND HOLD THE SOL TEST BUTTON DOWN AND ACCELERATE WATCHING FOR SINGS OF LOCK TO OCCUR AT THE PROPER TIME. SEE YOUR SERVICE MANUAL.

4. NEXT IN HIGH GEAR OR IN OVER DRIVE HOLD (ABOUT 2,000 INPUT RPM'S) THE SOL TEST BUTTON DOWN AND STEP ON THE BRAKE RAPIDLY AND PUSH THE ENGINE ACCELERATOR CONTROLLER IN ALL THE WAY. THIS RAPID STOP SHOULD SNUB (KILL) THE ENGINE ON MOST LATE MODULES. EARLY MODELS MAY REQUIRE THAT YOU INSTALL A SLAVE GOVERNOR INTO THE TRANSMISSION. A SLAVE GOVERNOR IS MADE BY PLACING A SMALL PEACE OF RUBBER HOSE

G-TEC
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(417) 725-6400 • (800) 725-6499 • Fax (417) 725-3577

DURING ALL TESTS, WATCH FOR ABNORMAL SHUDDER OR VIBRATION, AND LISTEN FOR ABNORMAL NOISES. PROPER COOLER LINE FLOW FROM THE PUMP MUST BE ESTABLISHED PRIOR TO THE BEGINNING OF THE TEST.

1. With the tester turned off. Shift the transmission into park, RWD transmissions should lock and you should not be able to rotate the load cell by hand. If you can rotate the load cell the parking paw may be missing or broken. In order to test park in FWD transmissions you must apply load to the left load cell and then the right out put should react in the same manner as a RWD transmission. After the park test is completed insert the fill tube in the fill tube hole (the OEM fill tube should be removed from the transmission) in the transmission. Turn on the tester by making sure the two stop buttons are pulled out and then depress the green on button to turn the tester on. If the tester is on the green button should glow. Then turn the fill/drain switch to the fill position on the control panel to pump ATF into the transmission. When ATF flows over the side of the transmission turn the fill/drain switch to the off position.
2. Shift the transmission into the neutral position. Add 25/50 psi to the right load cell. Then with the tester on, press the FWD button on the key pad (the only time you will run the tester with the RWD button engaged is when testing transmission that require the motor to run in a reverse direction such as in the case of the Hondas). To increases the motor RPM press the black arrow in the yellow square pointing up. To decrees the motor RPM press the black arrow in the yellow square pointing down. Increases the motor RPM to an average idle speed (800 to 1100 impute motor Rpm's). Now continue to fill the transmission with ATF. Check to see that you have flow and cooler line pressure. The transmission is full when there are no longer bubbles in the flow meter and the ATF are once again poring out the fill tube hole. If you have no flow you may have hooked the cooler lines in reverse. If this is the case stop the tester by pressing the stop button in the Red Square on the keypad. Causation must be used when reversing the two cooler lines. Pressure may have built up in the cooler line and may spray out of the line violently when disconnected. ATF will only flow in one direction through the flow meter, filter, heat sensor, and pressure sensor. After you have reversed the cooler lines press the FWD button and the transmissions will automatically return to the last programmed motor RPM. If you reverse the lines and still show no cooler flow or cooler pressure then the

pump is more then likely defective or there is some restriction in the transmission. See the General diagnosis chart for a more detailed answer to what this symptom my be caused from. Now your transmission is full of ATF and you can proceed with the Neutral Test. If you get a forward rotation of the load cell then the forward load cell clutch packs are out of tolerance. If you get a reverse rotation then the reverse clutch pack are out of tolerance and if the motor stalls and defaults (quick's running) then both clutch packs are out of tolerance and you cannot go proceed with the test. You must send it back to the rebuilder. Record you test results on your Dyno Test Results sheet. For example did you have any forward rotation _____ yes _____ no? After performing the Neutral test bring the transmission to a full stop with the down arrow key and release your load after the test is complete.

3. Shift your transmission to the reverse position and bring your impute RPMS up to a good idle speed. Do you have Reverse engagement? If so, increases your RPM to 1800. Next bring your RPM back to a full stop. Add 25/50psi and repeat the test. Now bring the tester to a stop and repeat the test in the RWD Max mode. Record your test results.

See the Sample Test Sheet and record your Results on the Dyno Test Results Sheet that was prepared for your company.

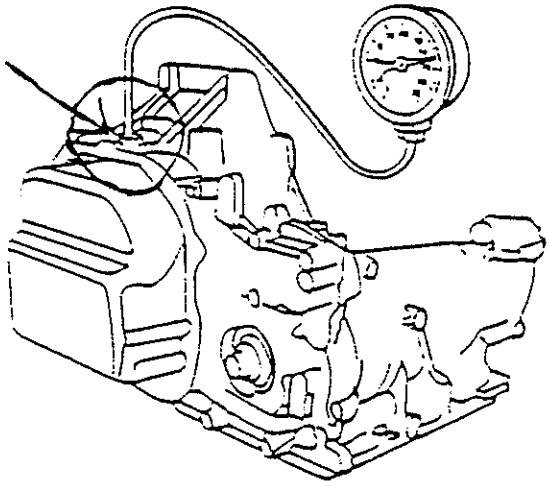
Thank You

Steven D. Glassinger
President G-TEC

TURBO-TANK PRODUCTS

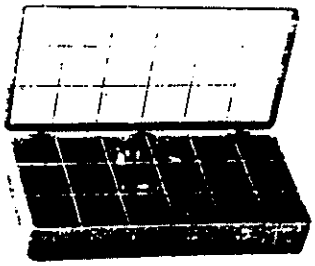
TRANSMISSION PRESSURE GAUGE FITTINGS

NEW From Turbo-Tank Products! These hard-to-find brass bushing adapters will allow you to attach your pressure gauge or dyno tester to most domestic and import transmissions.



Available In Kit Form $69.00

Or Individually For: $8.00



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TRANSMISSION PRESSURE GAUGE FITTINGS
FOR DOMESTICS AND IMPORTS

MAKE	MODEL	FITTING
ACURA/HONDA	ALL	A
BMW	B/W 65	X
	ZF ALL	G
CHRYSLER	A SERIES FWD	F
	KM SERIES	A
	ZF	G
	F3A	C
	ALL RWD	X[1]
AMC	U.S.	X[1]
	ZF	G
JEEP	AW4	D
	TO 6-8	X[1]
	TH-400	X[1]
FORD	U.S.	X
	MAZDA	C
GM	ALL U.S. BUILT	X
	TOYOTA	D
	JATCO	C
HYUNDAI	KM SERIES	A
INFINITI	JATCO	C
ISUZU	ALL	E
JAGUAR	ZF	G
	B/W 65	X
	TH-400	X
LEXUS	TOYOTA	D
MAZDA	ALL	C
MERCEDES	ALL	D
MITSUBISHI	KM SERIES	A
	AM SERIES	D
	JATCO	C
NISSAN/DATSUN	ALL	C
PEUGEOT	ZF	G
PORSCHE	VW/AUDI	B
	MERCEDES	E
SAAB	ZF	G
	B/W 37	X
SUBARU	ALL	C
SUZUKI	ALL	D
TOYOTA	A-20 A-30	B
	ALL OTHERS	D
VW/AUDI	010-003	B
	ZF	G
VOLVO	AM	D
	B/W	X
	ZF	G

DYNO TEST RESULTS

Trans Type:_____ Tester I.D. #_____ Converter _____ Slave ___

1. Park Functional: yes ___ no ____
2. Neutral Test with load:
   - Maine Line psi _____ spec, Line psi actual ____
   - Forward rotation: yes ___ no ___
   - Reverse rotations yes ___ no ___
   - Cooler line psi spec _____ actual psi _____
   - Cooler line flow spec ____ actual psi _____
3. Reverse Test.
   - Line psi _____ spec, Line psi actual ____ Max psi _____spec
   - Max psi actual ___
   - Did Reverse engage yes ____ no _____
   - Are there any Leaks yes ____ no _____
   - Is there any noise yes ____ no _____
4. Manual up / down shift Test
   - L1 yes _____ no _____ line psi spec _____ actual psi _____
   - L2 yes _____ no _____ line psi spec _____ actual pai _____
5. Auto up / down shift Test Drive ___or Over Drive ____
   - 1st Line psi spec _____ actual psi ____ Shift point _____ RPM 1- 2 shift
   - 2nd Line psi spec ____ actual psi ____ Shift point _____ RPM 2-3 shift
   - 3rd Line psi spec ____ actual psi ____ Shift point _____ RPM 3-4 shift
   - 4th Line psi sped _____actual psi ____ Shift point _____ RPM 4–5 shift
5. Passing Gears Yes _____ No _____
6. Lock up Yes _____ No _____
7. Any Delays _____
8. Any Slipping _____
9. Any Abnormal Noises _____
10. Any External Leaks _____
11. Pass Yes _____ No _____ if no why _____

Sample Test

During all tests, watch for abnormal shudder or vibration, and listen for abnormal noises. Proper cooler line flow from the pump must be established prior to beginning.

1. **Neutral Test**
   a. With input RPM at 0, place transmission gear selector in Neutral position.
   b. Increase variable load to 15 psi.
   c. Set vacuum, and T.V. as needed for normal operation.
   d. Increase input RPM to 900.

There should be no forward or reverse rotation of output shaft(s). Check main line pressure, and flow meter for adequate flow.

   e. Repeat test at 2000 RPM

2. **Park Test**
   a. With input RPM at 0, place transmission gear selector in Park position.

Attempt to turn output shaft with a pipe wrench. Shaft should not turn.

3. **Reverse Test**
   a. With input RPM at 0, place transmission gear selector in Reverse position.
   b. Set variable load at 0.
   c. Set vacuum and T.V. as needed.
   d. Increase input RPM to 900.

Check main line pressure, and cooler line pressure. Check output RPM to verify proper gear ratio.

   e. Increase variable load to 25 psi for RWD or 13 psi for FWD
   f. Increase input RPM to 2400 (no longer than 45 sec.)

Check main line pressure, and cooler line pressure. Check output RPM to verify proper gear ratio.

4. **Manual Up Shift/Down Shift**
   a. With input RPM at 0, place transmission gear selector in L1 position.
   b. Set variable load at 20 psi for RWD or 10 psi for FWD.
   c. Set vacuum and T.V. as needed for normal operation.
   d. Increase input RPM to 1800.

Check main line pressure, and cooler line pressure. Check output RPM to verify proper gear ratio. Check flow meter for adequate flow.

   e. Set throttle pressure for max T.V.

Check main line pressure.

Repeat above steps and checks for each forward gear, including D and OD.

Check transmission temperature.

5. **Auto Shift Test**

a. With input RPM at 0, place transmission gear selector in Drive position.

b. Set variable load at 20 psi for RWD or 10 psi for FWD.

c. Set vacuum and T.V. as needed for normal operation.

d. Slowly increase input RPM, simulating automobile acceleration.

Verify proper shift between all gears. Check for proper main line pressure and cooler line pressure in all gears. Verify adequate cooler line flow. Check transmission temperature.

e. Repeat test

f. Engage lock up

Verify lock up apply, observe bobble in flow meter, check to see if transmission temperature drops.

g. Disengage lock up

h. Increase throttle pressure to max T.V.

Verify down shift. Check main line, and cooler line pressure.

i. Set T.V. for normal operation

j. Increase variable load until down shift to L2 occurs

Verify down shift

k. Increase variable load until down shift to L1 occurs.

Verify down shift.

l. Set variable load to 60 psi for RWD or 30 psi for FWD.

m. Set throttle pressure to max T.V.

Verify upshift of each gear without slippage. T.V. pressure may have to adjusted to obtain 3-4 shift.

n. Repeat test

6. **Engagement Test**

a. With input RPM at 0, place transmission gear selector in Neutral position.

b. Set variable load to 50 psi for RWD or 25 psi for FWD.

c. Set vacuum and T.V. as needed for normal operation.

d. Increase input RPM to 1000.

Verify that output shaft(s) are not turning.

e. Shift transmission gear selector to Drive position.

Verify smooth engagement of transmission.

f. Shift transmission gear selector back to Neutral position.

g. Shift transmission gear selector to Reverse position.

Verify smooth engagement of transmission.

PRESSURE GAUGE QUICK CHART

Remember to always check mainline pressure in all ranges: PARK, REVERSE NEUTRAL, DRIVE/S, 3RD, 2ND, 1ST. (P,R,N,D,3,2,1,).

Be sure that you check your factory service manuals for specifications for proper PSI readings and be sure that the transmission is at 110 f. or hotter. ALWAYS START WITH **MAINLINE** PRESSURE.

ALL RANGES SHOULD BE CHECKED UNDER 3 CONDITIONS: SLOW IDLE (900 INPUT RPM'S), FAST IDLE (1200 INPUT RPMS), AND WIDE OPEN THROTTLE. (WOT). For example if all pressures are within specification at slow idle then the pressure regulator and pump are functioning properly. Below are a few possible problems and the corresponding symptoms.

SYMPTOM	POSSIBLE PROBLEM/S
LOW PRESSURE AT SLOW AND FAST IDLE IN ALL RANGES.	PUMP, PRESSURE REGULATOR, BLOCKED FILTER, LOW FLUID, INTERNAL LEAKS.
LOW PSI AT FAST IDLE IN ALL RANGES.	WEAK PUMP, INTERNAL LEAKS, WOT LOW PSI WEAK PUMP.
LOW PSI IN A PARTICULAR RANGE (EXAMPLE L1 OR D).	INTERNAL LEAKS, FORWARD CLUTCH, LEAK WOULD BE NORMAL IN P & R. R, L & N LEAK IN LOW REVERSE. LOW PSI IN MANUAL 1,2,3 COULD INDICATE VALUE LEAK.
DROP IN PSI AT 3RD LOW PSI IN R.	DIRECT CLUTCH LEAK. THE DIRECT CLUTCH IS USUALLY ON IN 3RD & R.
GRADUAL PSI DROP DURING FAST IDLE.	PARTIALLY BLOCKED OR DIRTY FILTER.
FIXED LINE PRESSURE EITHER HIGH OR LOW NO TV, R OR BOOST	STUCK PRESSURE REGULATOR VALUE, LIMP MODE ON OR CHECK BALL STUCK OR TV CABLE BROKEN.
HIGH PSI AT IDLE	PRESSURE REGULATOR OR THROTTLE PRESSURE PROBLEM. CHECK TV LINE,
HIGH PSI AT WOT STALL	PRESSURE REGULATOR OR THROTTLE SYSTEM. IF NORMAL AT IDLE THEN THERE IS A PROBLEM IN THE THROTTLE SYSTEM.
LOW PSI AT WOT STALL	CABLE OR VACUUM SYSTEM PROBLEM, PULL TV CABLE OR DISCONNECT VACUUM HOSE FOR MAX THROTTLE, IF PSI IS STILL LOW THEN THERE IS A PROBLEM IN THE PUMP OR CONTROL SYSTEM.
IF STALL REVERSE LOW PSI ALL OTHER RANGES ARE NORMAL.	WEAK PUMP

TROUBLE SHOOTING YOUR CONVERTER CLUTCH

SYMPTOMS	POSSIBLE PROBLEM
CLUTCH DOES NOT RELEASE	SOLENOID DOES NOT EXHAUST. THE CONTROL VALVE ASSEMBLY (APPLY VALVE) IS STUCK IN APPLY POSITION.
APPLY IS ROUGH, SHUDDERS, OR SLIPS:	THE CONTROL VALVE ASSEMBLY REGULATOR VALVE MAY BE STUCK. TRIBINE SHAFT SEALS MAY BE DAMAGED OR MISSING. THE CONVERTER CLUTCH BLOW OFF CHECK BALL IS NOT SEATED OR MAY BE DAMAGED. THE CHANNEL PLATE ACCUMULATOR PISTON OR SEAL MAY BE DAMAGED OR THE SPRING IS MISSING, DAMAGED OR WRONG SPRING USED.
NO CLUTCH APPLY	VERIFY E.C.M. OPERATION AND WRINGING. THE CONNECTOR MAY BE DAMAGED, PINCHED, OR THE 3RD CLUTCH SWITCH INOPERATIVE. THE CONTROL VALVE ASSEMBLE, CONVERTER CLUTCH SHIFT VALVE MAY BE STUCK, OR THE CHECK BALL IS MISSING OR DAMAGED. SOLENOID SCREEN COULD BE BLOCKED. TURBAN SHAFT MAY HAVE A DAMAGED SEAL. OIL PUMP DRIVE SHAFT MAY HAVE A DAMAGED SEAL. CHANNEL PLATE CONVERTER CLUTCH BLOW OFF CHECK BALL NOT SEATED, DAMAGED OR MISSING. ACCUMULATOR PISTON SEAL DAMAGED OR MISSING.

PRESSURE GAUGE QUICK CHART

Remember to always check mainline pressure in all ranges: PARK, REVERSE NEUTRAL, DRIVE/S, 3RD, 2ND, 1ST. (P,R,N,D,3,2,1,).

Be sure that you check your factory service manuals for specifications for proper PSI readings and be sure that the transmission is at 110 f. or hotter. ALWAYS START WITH **MAINLINE** PRESSURE.

ALL RANGES SHOULD BE CHECKED UNDER 3 CONDITIONS: SLOW IDLE (900 INPUT RPM'S), FAST IDLE (1200 INPUT RPMS), AND WIDE OPEN THROTTLE. (WOT). For example if all pressures are within specification at slow idle then the pressure regulator and pump are functioning properly. Below are a few possible problems and the corresponding symptoms.

SYMPTOM	POSSIBLE PROBLEM/S
LOW PRESSURE AT SLOW AND FAST IDLE IN ALL RANGES.	PUMP, PRESSURE REGULATOR, BLOCKED FILTER, LOW FLUID, INTERNAL LEAKS.
LOW PSI AT FAST IDLE IN ALL RANGES.	WEAK PUMP, INTERNAL LEAKS, WOT LOW PSI WEAK PUMP.
LOW PSI IN A PARTICULAR RANGE (EXAMPLE L1 OR D).	INTERNAL LEAKS, FORWARD CLUTCH, LEAK WOULD BE NORMAL IN P & R. R, L & N LEAK IN LOW REVERSE. LOW PSI IN MANUAL 1,2,3 COULD INDICATE VALUE LEAK.
DROP IN PSI AT 3RD LOW PSI IN R.	DIRECT CLUTCH LEAK. THE DIRECT CLUTCH IS USUALLY ON IN 3RD & R.
GRADUAL PSI DROP DURING FAST IDLE.	PARTIALLY BLOCKED OR DIRTY FILTER.
FIXED LINE PRESSURE EITHER HIGH OR LOW NO TV, R OR BOOST	STUCK PRESSURE REGULATOR VALUE, LIMP MODE ON OR CHECK BALL STUCK OR TV CABLE BROKEN.
HIGH PSI AT IDLE	PRESSURE REGULATOR OR THROTTLE PRESSURE PROBLEM. CHECK TV LINE,
HIGH PSI AT WOT STALL	PRESSURE REGULATOR OR THROTTLE SYSTEM. IF NORMAL AT IDLE THEN THERE IS A PROBLEM IN THE THROTTLE SYSTEM.
LOW PSI AT WOT STALL	CABLE OR VACUUM SYSTEM PROBLEM, PULL TV CABLE OR DISCONNECT VACUUM HOSE FOR MAX THROTTLE, IF PSI IS STILL LOW THEN THERE IS A PROBLEM IN THE PUMP OR CONTROL SYSTEM.
IF STALL REVERSE LOW PSI ALL OTHER RANGES ARE NORMAL.	WEAK PUMP

GENERAL DIAGNOSIS CHART FOR MOST NON-COMPUTERIZED AUTOMATIC TRANSMISSIONS

TRANSMISSION SYMPTOMS	POSSIBLE PROBLEMS
SLIPS IN ALL RANGES	WATER IN ATF OR LOW OIL LEVEL MODULATOR OR VALVE STRAINER OR GASKET VALVE BODY OR GASKET OR PLATE PRESSURE REGULATOR OR BOOST VALVE CHECK BALL STUCK MISSING MANUAL VALVE OR LINKAGE POROSITY CROSS LEAK PIMP-GEARS PRIMMING VALVE STUCK CLUTCH SEAL RINGS GASKET SCREEN CASE LEAKS 1-2 ACCUMULATOR
DRIVE SLIPS/NO 1ST GEAR	LOW OIL/OIL IN WATER MODULATOR &/OR VALVE STRAINER &/OR GASKET VALVE BODY-GASKET/PLATE PRESSURE REGULATOR &/OR BOOST VALVE CHECK BALL STUCK OR MISSING MANUAL VALVE/OR LINKAGE POROSITY/CROSS LEAK PUMP-GEARS PRIMING VALVE CLUTCH SEAL RINGS GASKET SCREEN-PRESSURE CASE-POROUS LEAK 1-2 ACCUMULATOR INTERMEDIATE SERVO FORWARD CLUTCH ASSEMBLY L&R ROLLER CLUTCH ASSEMBLY
LINE PRESSURE ALL LOW	LOW OIL LEVEL/WATER IN ATF STRAINER &/OR GASKET GOVERNOR-VALVE/SCREEN VALVE BODY-GASKET/PLATE PRESSURE REGULATOR & OR BOOST VALVE 0 VACUUM - CHECK BALL 0 VACUUM - MODULATOR &/OR VALVE MANUAL VALVE/LINKAGE POROSITY/CROSS LEAK PUMP/GEARS PRIMMING VALVE CLUTCH SEAL RINGS PORSITYS/CROSS LEAK VALVE BODY GASKET SCREEN CASE PORSITY LEAK 1-2 ACCUMULATOR INTERMEDIATE SERVO

LINE PRESSURE ALL HIGH	VACUUM LEAK MODULATOR &/OR VALVE PRESSURE REGULATOR &/OR BOOST VALVE POROSITY/CROSS LEAK VALVE BODY CASE LEAK
1-2 PRESSURE HIGH	VACUUM LEAK MODULATOR &/OR VALVE PRESSURE REGULATOR &/OR BOOST VALVE POROSITY / CROSS LEAK CASE POROUS LEAK
1-2 PRESSURE LOW	LOW OIL LEVEL/WATER IN OIL STRAINER &/OR GASKET VALVE BODY-GASKET/PLATE PRESSURE REGULATOR & OR BOOST VALVE BALL STUCK 1-2 SHIFT VALVE 2-3 ACCUMULATOR POROSITY/CROSS LEAK PUMP-GEARS CLUTCH SEAL RING CROSS LEAK CASE-POROUS/LEAKS 1-2 ACCUMULATOR INTERMEDIATE SERVO INTERMEDIATE CLUTCH ASSEMBLY
2-3 DIRECT CLUTCH PRESSURE HIGH	VACUUM LEAK PRESSURE REGULATOR &/OR BOOST VALVE POROSITY/CROSS LEAKAGE CASE - LEAKAGE
2-3 DIRECT CLUTCH PRESSURE LOW	LOW OIL / WATER IN OIL STRAINER &/ OR GASKET VALVE BODY - GASKET/PLATE PRESSURE REGULATOR & OR BOOST VALVE 2-3 SHIFT VALVE CROSS LEAKAGE PUMP - GEARS CLUTCH SEAL RINGS CROSS LEAKAGE CASE - POROUS / LEAKAGE DIRECT CLUTCH ASSEMBLY
NO 1-2 UP SHIFT	VACUUM LEAK GOVERNOR - VALVE / SCREEN VALVE BODY - GASKET/PLATE PRESSURE REGULATOR & OR BOOST VALVE 1-2 SHIFT VALVE POROSITY / CROSS LEAKS CLUTCH SEALING RINGS CROSS LEAKAGE CASE POROUS / LEAKAGE 1-2 ACCUMULATOR INTERMEDIATE CLUTCH ASSEMBLY INTERMEDIATE ROLLER CLUTCH ASSEMBLY

1-2 UP SHIFT EARLY/LATE	VACUUM LEAK GOVERNOR-VALVE/SCREEN VALVE BODY - GASKET/PLATE CHECK BALL STUCK 1-2 SHIFT VALVE POROSITY/CROSS LEAK CASE POROUS LEAK
1-2 UP SHIFT W.O.T ONLY	VACUUM LEAK 1-2 SHIFT VALVE DETENT VALVE & LINKAGE POROSITY/CROSS LEAK CASE - POROUS LEAKAGE
SLIPPAGE IN 1-2	LOW OIL/WATER IN OIL MODULATOR &/OR VALVE BODY - GASKET/PLATE PRESSURE REGULATOR /OR BOOST VALVE CHECK BALL 1-2 SHIFT VALVE 2-3 ACCUMULATOR POROSITY CROSS LEAKAGE PUMP / GEARS CLUTCH SEAL RINGS POROUS/CROSS LEAK CASE POROUS LEAKAGE 1-2 ACCUMULATOR INTERMEDIATE SERVO INTERMEDIATE CLUTCH ASSEMBLY INTERMEDIATE ROLLER CLUTCH ASSEMBLY
ROUGH 1-2 UP SHIFT	VACUUM LEAK MODULATOR &/ OR VALVE PRESSURE REGULATOR BOOST VALVE POROSITY/CROSS LEAK CROSS LEAKAGE LEAKAGE IN CASE 1-2 ACCUMULATOR
NO 2-3 UP SHIFT	VALVE BODY - GASKET/PLATE 2-3 SHIFT VALVE POROSITY/CROSS LEAK CLUTCH SEALING RINGS CROSS LEAKAGE CASE LEAKAGE DIRECT CLUTCH ASSEMBLY
2-3 UP SHIFT EARLY/LATE	VACUUM LEAK MODULATOR & / OR VALVE GOVERNOR - VALVE/SCREEN VALVE BODY - GASKET/PLATE CHECK BALL 2-3 SHIFT VALVE DETENT VALVE & LINKAGE POROSITY/CROSS LEAKAGE POROSITY/CASE LEAKAGE

2-3 UP SHIFT SLIP	LOW OIL / WATER IN OIL MODULATOR &/OR VALVE BODY - GASKET/PLATE PRESSURE REGULATOR &/OR BOOST VALVE CHECK BALL 2-3 SHIFT VALVE POROSITY CROSS LEAK PUMP / GEARS CLUTCH SEALING RINGS CROSS LEAKAGE CASE POROUS LEAKAGE DIRECT CLUTCH ASSEMBLY
ROUGH 2-3 UP SHIFT	VACUUM LEAK MODULATOR & \OR VALVE PRESSURE REGULATOR & OR BOOST VALVE 2-3 SIFT VALVE 2-3 ACCUMULATOR POROSITY/CROSS LEAKAGE POROSITY/CASE LEAKAGE
NO W.O.T. UP SHIFT	DETENT REGULATOR VALVE POROSITY / CROSS LEAKAGE CROSS LEAKAGE
SLIPS 2-3 UP SHIFT	LOW OIL / WATER IN OIL MODULATOR & OR VALVE BODY - GASKET/PLATE PRESSURE REGULATOR &/OR BOOST VALVE CHECK BALL 2-3 SHIFT VALVE POROSITY / CROSS LEAKAGE PUMP - GEAR CLUTCH SEALING RINGS CROSS LEAK CROSS LEAK IN CASE DIRECT CLUTCH ASSEMBLY
ROUGH 2-3 UP SHIFT	VACUUM LEAK MODULATOR &/OR VALVE PRESSURE REGULATOR &/OR BOOST VALVE 2-3 SHIFT VALVE 2-3 ACCUMULATOR POROSITY/CROSS LEAK LEAK IN CASE
NO W.O.T. 1-2 UP SHIFT	DETENT REGULATOR VALVE POROSITY/CROSS LEAK CROSS LEAK
NO PART THROTTLE DOWN SHIFT	2-3 SHIFT VALVE DETENT VALVE & LINKAGE
NO FULL THROTTLE DOWN SHIFT	DETENT VALVE & LINKAGE
2-3 UP SHIFT W.O.T ONLY	VACUUM LEAK DETENT VALVE & LINKAGE
HARSH DOWN SHIFT	2/3/4 CHECK BALL

L1 RANGE - NO ENGINE BRAKING	PRESSURE REGULATOR VALVE 1-2 SHIFT VALVE MANUAL LOW CONTROL VALVE MANUAL VALVE/LINKAGE POROSITY/CROSS LEAKAGE CLUTCH SEAL RINGS CASE POROUS LEAK FORWARD CLUTCH ASSEMBLY INTERMEDIATE ROLLER CLUTCH ASSEMBLY
L2 RANGE - NO ENGINE BRAKING	PRESSURE REGULATOR &/ OR BOOST VALVE MANUAL VALVE / LINKAGE POROSITY / CROSS LEAKAGE CLUTCH SEALING RINGS BAND - INTERMEDIATE OR FORWARD CLUTCH ASSEMBLY INTERMEDIATE ROLLER CLUTCH ASSEMBLY
NEUTRAL - DRIVES IN NEUTRAL	FORWARD CLUTCH ASSEMBLY TO TIGHT
NEUTRAL - DRIVES IN REVERSE	REVERSE CLUTCH ASSEMBLY TO TIGHT
NEUTRAL - BINDS MOTOR/ENGINE	BOTH F&R CLUTCH ASSEMBLIES TO TIGHT
REVERSE - NO REVERSE	PRESSURE REGULATOR OR BOOST VALVE CHECK BALLS MANUAL VALVE/LINKAGE POROSITY/CROSS LEAKAGE CLUTCH SEALING RINGS POROUS CROSS LEAK GASKET SCREEN - PRESSURE CASE - POROUS LEAK FORWARD CLUTCH ASSEMBLY LOCKED DIRECT CLUTCH ASSEMBLY LOW & REVERSE CLUTCH ASSEMBLY
SLIPS IN REVERSE	LOW OIL / WATER IN OIL MODULATOR &/ OR VALVE STRAINER OR GASKET VALVE BODY - GASKET / PLATE PRESSURE REGULATOR &/OR BOOST VALVE BALLS 1-2 SHIFT VALVE MANUAL VALVE/LINKAGE POROSITY/CROSS LEAK CLUTCH SEALING RINGS CROSS LEAK GASKET SCREEN - PRESSURE CASE - POROUS LEAKAGE DIRECT CLUTCH ASSEMBLY LOW & REVERSE CLUTCH ASSEMBLY
NOISY IN ALL RANGES	LOW OIL LEVEL / WATER IN OIL STRAINER & / OR VALVE VALVE BODY - GASKET/PLATE PUMP - GEARS GASKET SCREEN - PRESSURE CONVERTER ASSEMBLY GEAR SET & BEARINGS

NO PARK	PARK PAWL / LINKAGE
1-2-3 SHIFT NOISY	LOW OIL LEVEL/WATER IN OIL DIRECT CLUTCH ASSEMBLY INTERMEDIATE CLUTCH ASSEMBLY GEAR SET & BEARINGS
REVERSE & D, L1, & L2 NOISY	CONVERTER ASSEMBLY
LOW COOLER - FLOW	LOW OIL LEVEL / WATER IN OIL BLOCKED COOLER LINES STRAINER & OR GASKET OR FILTER COOLER VALVE LEAK CROSS LEAK GASKET SCREEN - PRESSURE CASE - POROUS LEAKAGE
SPEW'S OIL OUT BREATHER OR FILL TUBE	WATER IN OIL OVER FILLED STRAINER - GASKET PRIMING VALVE STUCK COOLER VALVE LEAK POROUS / CROSS LEAK

FORD MOTOR COMPANY TRANSMISSION SPECIFICATIONS

FORD C3, TEST SPECIFICATIONS

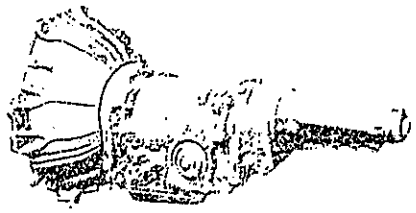
LINE PRESSURE:	PSI
1. COOLER LINE	10 TO 60
2. REVERSE	90 TO 185 AT 8"
3. MAX	175 TO 300 AT 0" VAC
4. NEUTRAL	55 TO 75
5. OVER DRIVE	N/A
6. DRIVE	55 TO 75
7. LOW 2	90 TO 150
8. LOW 1	90 TO 150
9. MIN 1-2 SHIFT	1100 TO 1500 RPM INPUT
11. MIN 2-3 SHIFT	1100 TO 1500 RPM INPUT
12. FLOW READING	.5 GPM TO 1.5
13. VACUUM	08" TO 17"

FORD C-4 SPECIFICATION

1. COOLER LINE	10 - 60 PSI
2. REVERSE	90 - 185 PSI AT 8" TO 10" VACUUM
3. MAX REVERSE	175 - 300 PSI AT 0" VACUUM
4. NEUTRAL	55 - 185 PSI 15" TO 17" VACUUM
5. OVERDRIVE	N/A
6. DRIVE	55 - 75 PSI
7. LOW 2	90 - 85 PSI
8. LOW 1	90 - 85 PSI
9. 1-2 SHIFT	1100 - 1500 INPUT RPM
10 2-3 SHIFT	1100 - 1500 INPUT RPM
11. FLOW READING	.5 GPM - 2.5 GPM
12. VACUUM READING	15" - 17" VACUUM

FORD C-5 SPECIFICATION

1. COOLER LINE	10 TO 60 PSI
2. REVERSE	156 TO 178 PSI 10" VAC
MAX REVERSE	271 TO 291 PSI
3. NEUTRAL	94 TO 107 PSI 10" VAC
4. OVER DRIVE	N/A
5. DRIVE	94 PSI TO 107 PSI VAC 10"
6. LOW 1	112 PSI 10" VAC
7. LOW 2	112 PSI 10" VAC
8. 1-2 UP SHIFT	1100 - 1500 RPMS
9. FLOW READING	.5 TO 2.5
10. VACUUM READING	10"



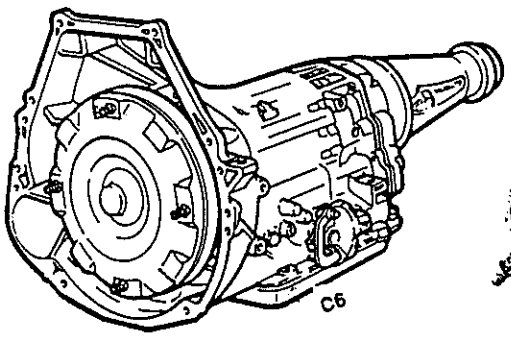
1.	COOLER	10 TO 60 PSI
2.	REVERSE	66 TO 132 PSI - 15" TO 17" VAC
3.	MAX REVERSE	175 PSI TO 300 PSI - 0" VAC
4.	NEUTRAL	55 TO 80 PSI - 15" TO 17" VAC
5.	OD N/A	
6.	DRIVE	55 TO 80 PSI - 15" TO 17" VAC
7.	L2	55 TO 80 PSI - 15" TO 17" VAC
8.	L1	55 TO 80 PSI - 15" TO 17" VAC
9.	1-2 SHIFT POINT	1500 TO 1700 INPUT RPM
10.	2-3 SHIFT POINT	1500 TO 1700 INPUT RPM
11.	FLOW READING	.5 TO 2.5
12.	VACUUM	15" TO 17"

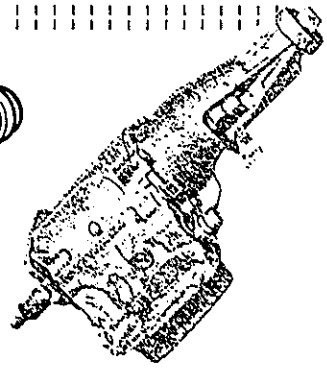
FORD FMX SPECIFICATIONS

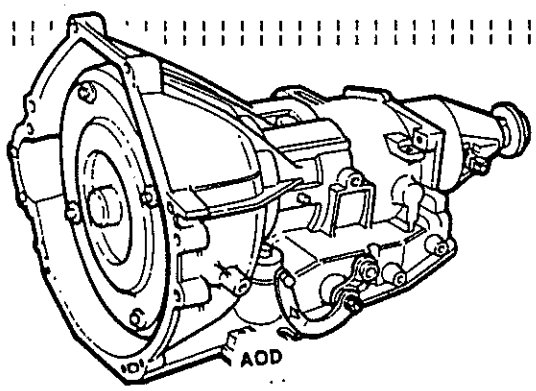
1.	COOLER LINE	15 TO 40 PSI
2.	REVERSE	75 TO 150 PSI
3.	MAX REVERSE	200 TO 260 0" VACUUM
4.	NEUTRAL	60 TO 90
5.	OD	N/A
6.	DRIVE	60 TO 90 PSI
7.	L2	60 TO 90
8.	L1	60 TO 90
9.	1-2 SHIFT POINT	1100 TO 1450 INPUT RPM
10.	2-3 SHIFT	1100 TO 1450 INPUT RPM
11.	VACUUM	16" TO 17" VACUUM
12.	FLOW READING	.5 TO 1.9

FORD AOD SPECIFICATION

1.	COOLER LINE	20 TO 35 PSI
2.	REVERSE	95 TO 120 PSI
3.	MAX REV	260 TO 300 PSI
4.	N LINE	60 TO 75 PSI
5.	DR PRESSURE	60 TO 75 PSI
6.	L2 PRESSURE	60 TO 75 PSI
7.	L1 PRESSURE	60 TO 75 PSI
8.	1-2 SHIFT POINTS	1100 TO 1200 RPM INPUT SPEED
9,	2-3 SHIFT POINTS	1100 TO 1200 RPM INPUT SPEED
10.	3-4 SHIFT POINTS	1100 TO 1350 RPM INPUT SPEED
11.	TV PRESSURE	2 TO 4 PSI
12.	FLOW READING	.5 TO 2.GPM







FORD AODE/4R70W

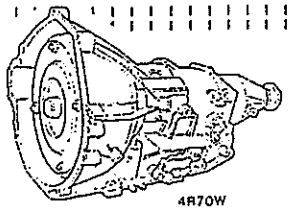
THE AODE/4R70W TRANSMISSION IS A FOUR-SPEED RWD DRIVE AUTOMATIC WITH ELECTRONIC CONTROLS. THE AODE IS MECHANICALLY SIMILAR TO THE AOD, HOWEVER THERE ARE SIGNIFICANT CHANGES TO THE VALVE BODY, TORQUE CONVERTER, CLUTCH, PUMP ASSEMBLY AND INPUT SHAFT. THE SPLIT TORQUE FUNCTION IN 3RD AND 4TH HAS BEEN ELIMINATED TO ENHANCE SHIFT QUALITY. (1993 FORD AODE SERVICE MANUAL)

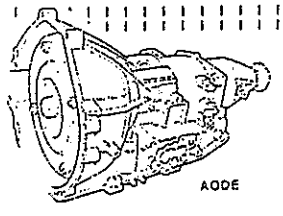
TO TEST THE AODE ON THE TURBO TESTER YOU WILL NEED A ROSTRA ANALYTICAL TOOL AND ITS RAT-PAK S-450 TO CONTROL SHIFT SOLENOIDS, COAST CLUTCH, LOCKUP AND TO CONTROL LINE PRESSURE. (AVAILABLE FROM GLASSINGER & COMPANY)

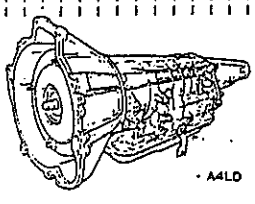
1. COOLER LINE PRESSURE 20 TO 35 PSI
2. REVERSE 80 TO 120 PSI
3. MAX REVERSE 220 TO 280 PSI
4. NEUTRAL 50 TO 75 PSI
5. OVER DRIVE 50 TO 75 PSI
6. SHIFT POINTS 1-2 1200 TO 1350
7. SHIFT POINTS 2-3 1200 TO 1350
8. SHIFT POINTS 3-4 1350 TO 1500
   EEC-IV CONTROLS SHIFT TIMING, LINE PRESSURE, VIA 4 ELECTRONIC SOLENOIDS. TWO FOR SHIFTING, ONE FOR CONVERTER CLUTCH, AND ONE FOR ELECTRONIC PRESSURE CONTROL (EPC)
9. FLOW .5 TO 2.0
10. LOCK UP 3RD GEAR CONTROLLED BY EEC-IV PROCESSOR WITH PRESSURE FROM THE MCCC SOLENOID IN VALVE BODY.
11. 1 (1993 1) 160 TO 210 PSI
12. D (1993 2) 50 TO 75 PSI
13. AFTER CONNECTING THE RAT AND THE S-450 RAT PAK TURN S-450 CONTROL KNOB MID-WAY BETWEEN LO & HI. WHEN SHIFTING, THE KNOB CAN BE PLACED ON THE LO SIDE, BUT ONLY DURING THE SHIFT, PROLONGED USAGE ON THE LO SIDE WILL CAUSE POSSIBLE SOLENOID AND RAT DAMAGE. AVOID PROLONGED USE ON THE HI SIDE. THIS WILL CAUSE HARSH SHIFTING AND POSSIBLE DAMAGE TO TRANSMISSION.

FORD A4LD SPECIFICATIONS

1. COOLER 15 TO 40 PSI
2. REVERSE 128 TO 148 PSI
3. MAX REVERSE 180 TO 314 - 0" VACUUM
4. NEUTRAL 55 TO 78 PSI
5. OVER DRIVE 55 TO 78 PSI
6. DRIVE 50 TO 78 PSI
7. L2 79 TO 112 PSI AT 10" VACUUM
8. L1 79 TO 112 PSI AT 10" VACUUM
9. 1-2 SHIFT POINT 1550 TO 1600
10. 2-3 SHIFT POINT 1450 TO 1500
11. 3-4 SHIFT POINT 2100 TO 2250 - 3-4 SHIFT MUST BE DONE WITH THE RAT TO OPERATE 4TH SOLENOID IN LATE MODEL 1988 AND NEWER. 12.







FORD E4OD COMPUTER CONTROLLED OVER DRIVE TRANSMISSION SPECIFICATIONS

IN ORDER TO TEST THIS TRANSMISSION YOU MUST USE YOUR ROSTRA ANALYTICAL TOOL WITH THE S-450 RAT-PAK TO CONTROL SHIFT SOLENOIDS, COAST CLUTCH, LOCKUP SOLENOID AND TO CONTROL LINE PRESSURE. THIS 4 SPEED RWD TRANSMISSION USES THE ELECTRONIC PRESSURE CONTROL SYSTEM.

LINE PRESSURES AND SPECIFICATION (EPC)

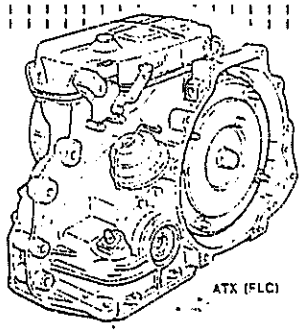
1.	COOLER LINE	10 TO 60 PSI
2.	REVERSE	74 TO 99 PSI
3.	MAX REVERSE	240 TO 290 PSI MAX EPC
4.	NEUTRAL	55 TO 65 PSI
5.	OVER DRIVE	55 TO 65
6.	DRIVE	55 TO 65
7.	L1	74 TO 99
8.	L2	55 TO 65
9.	1-2 SHIFT POINTS	1500 INPUT RPM
10.	2-3 SHIFT POINTS	2000 INPUT RPM
11.	3-4 SHIFT POINTS	2100 INPUT RPM
12.	1-2 SHIFT SOLENOID	55 TO 65 PSI - RESISTANCE 20 - 30 OHM
13.	2-3 SHIFT SOLENOID	55 TO 65 PSI - RESISTANCE 20 - 30 OHM
14.	3-4 SHIFT SOLENOID	55 TO 65 PSI - RESISTANCE 20 - 30 OHM
15.	LOCK UP	4TH - 1500 - 1700 INPUT RPMS 55 TO 65 PSI

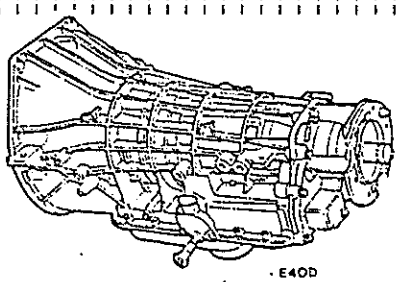
THE LINE PRESSURE MAY BE VARIED FROM VERY LOW TO VERY HIGH! BE CAREFUL! DAMAGE MAY RESULT FROM MISUSE! FOLLOW YOUR RAT MANUAL INSTRUCTION TO THE LETTER! ALWAYS START OFF WITH THE CONTROL KNOB MID-WAY BETWEEN HI AND LOW. IN PARK OR NEUTRAL ADJUST THE MAIN LINE PRESSURE UNTIL YOU ARE BETWEEN 55 AND 65 PSI.

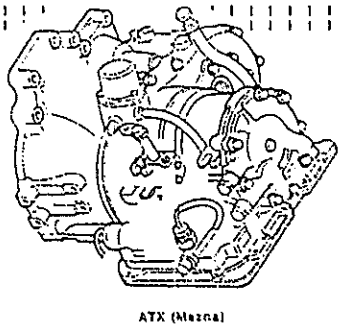
FORD ATX TRANS AXLE SPECIFICATIONS

1.	COOLER LINE	15 TO 40 PSI
2.	REVERSE	56 TO 92 PSI
3.	MAX REVERSE	98 TO 251 PSI
4.	NEUTRAL	45 TO 59 PSI
5.	DRIVE	45 TO 59 PSI
6.	L2	45 TO 90 PSI
7.	L1	45 TO 110
8.	1-2 SHIFT POINTS	1300 TO 1400 INPUT RPM
9.	2-3 SHIFT POINTS	1200 TO 1300 INPUT RPM
10.	TV	45 TO 110
11.	FLOW	.5 TO 2.5 GPM

(DO NOT CONNECT MAIN LINE GAUGE TO SERVO RELEASE)







FORD AXOD TRANSAXLE SPECIFICATIONS

1.	COOLER	15 TO 60 PSI
2.	REVERSE	93 TO 152 PSI
.	MAX REVERES	242 TO 279 PSI
.	NEUTRAL	81 TO 95 PSI
5.	OVER DRIVE	81 TO 95 PSI
6.	DRIVE	81 TO 95 PSI
7.	L1	112 TO 169 PSI
8.	1-2 SHIFT POINT	1550 TO 1600 INPUT RPM
9.	2-3 SHIFT POINT	1450 TO 1550 INPUT RPM
10.	3-4 SHIFT POINT	2100 TO 2300 INPUT RPM
11.	FLOW METER	.5 TO 2.0 GPM
12.	LOCK UP	BETWEEN 15 & 33 MPH IN 3RD

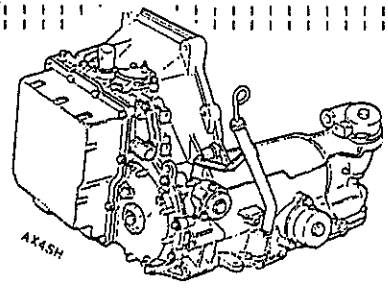
FORD AXODE TRANSAXLE SPECIFICATIONS

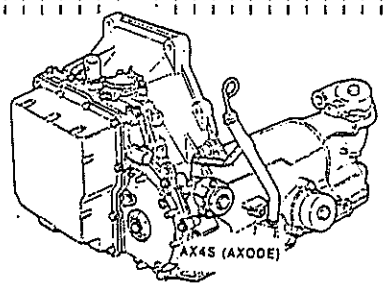
LINE / EPC

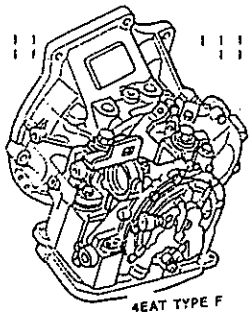
1.	COOLER	15 TO 60 PSI
2.	REVERSE	61 TO 99 PSI
3.	MAX REVERSE	252 TO 316 PSI
4.	NEUTRAL	48 TO 77 PSI
5.	OVER DRIVE	48 TO 77 PSI
6.	DRIVE/3RD	48 TO 77 PSI
7.	L1	198 TO 247 PSI
8.	1-2 SHIFT POINT	1500 TO 1600
.	2-3 SHIFT POINT	1450 TO 1550
J.	3-4 SHIFT POINT	2100 TO 2995
11.	FLOW METER	.5 TO 2.0
12.	LOCK UP	IN 3RD - 1400 TO 1500 - 48 TO 77 PSI
13.	PARK BLOW 150 F	130 TO 150 PSI
14.	PARK ABOVE 150 F	48 TO 77 PSI

AXOD-E TRANSAXLE OPERATIONS INCLUDING SHIFTING, TORQUE CONVERTER CLUTCH AND LINE PRESSURE ARE CONTROLLED BY THE "EEC-IV ELECTRONIC CONTROL ASSEMBLE. (ECA) THE ECA RECEIVES INFORMATION ON THROTTLE OPENING, ENGINE SPEED, TURBINE SPEED, AND OTHER POWER OPERATIONS FROM SENSORS. THE ECA USES THIS INFORMATION TO CONTROL THE MAJOR TRANSAXLE OPERATIONS BY OPERATING FIVE SOLENOIDS LOCATED IN THE AXOD-E VALVE BODY. THIS EXPANDED USE OF ELECTRONIC CONTROL IS THE MAJOR DIFFERENCE BETWEEN THE AXOD-E AND THE AXOD. (FORD AXODE TRANSMISSION REFERENCE MANUAL 1993)

TO CONTROL SHIFT SOLENOIDS, COAST CLUTCH, LOCKUP, AND LINE PRESSURE WE SUGGEST YOU USE THE ROSTRA ANALYTICAL TOOL AND THE S-450 RAT-PAK. AVOID PROLONGED USE ON THE HI OR LO SIDE OF THE ECA SOLENOID CONTROL ON YOUR RAT. PROLONGED USE MAY CAUSE HARSH SHIFTING (HI) AND POSSIBLE DAMAGE TO THE TRANSMISSION OR THE RAT.







GENERAL MOTORS AUTOMATIC TRANSMISSION SPECIFICATION

GM KF-100 SPECTRUM SPECIFICATIONS (THM-R1 - HYDRA-MATIC 4L30-E)

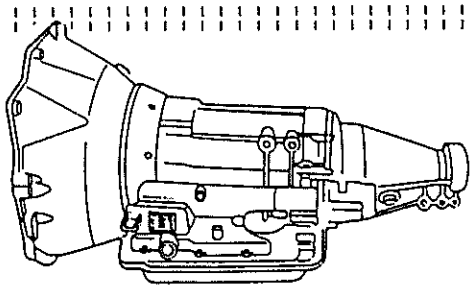
1.	COOLER	20 TO 60 PSI
2.	R	57 TO 110 PSI
3.	MAX R	228 TO 270 PSI
4.	N	43 TO 57 PSI
5.	D	43 TO 57 PSI
6.	1-2 SHIFT POINT	12 TO 13 MPH WOT - 32 TO 37 MPH
7.	2-3 SHIFT POINT	35 TO 55 MPH WOT - 63 TO 68 MPH
8.	L-1	114 TO 171
9.	L-2	114 TO 171
10.	FLOW	.5 TO 2.3 GPM
11.	KICK DOWN	12 VOLT SOLENOID
12.	VACUUM	10" TO 17"

GM THM 180/180C SPECIFICATIONS (HYDRA-MATIC 3L30)

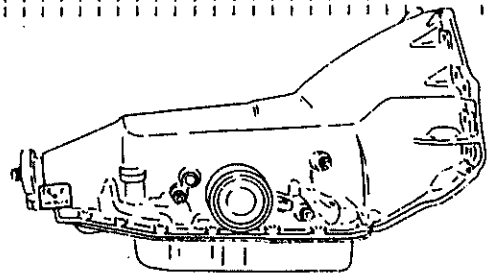
1.	COOLER LINE	15 TO 40 PSI
2.	R	90 TO 150 PSI
3.	MAX R	150 TO 285 PSI
4.	N	65 TO 75 PSI
5.	D / OD	65 TO 75 PSI
6.	1-2 SHIFT POINT	1200 TO 1600 RPM
7.	2-3 SHIFT POINT	1300 TO 2100 RPM
8.	LOCKUP	3RD GEAR
9.	L-1	65 TO 118 PSI
10.	L-2	65 TO 118 PSI
11.	FLOW	.5 TO 1.9 GPM

GM THM 2004R TRANSMISSION SPECIFICATION

		TV PRESSURE
1.	COOLER LINE	15 TO 40 PSI
2.	REV	100 TO 150 PSI
3.	MAX REV	215 TO 310 PSI
3.	N	55 TO 70 PSI
4.	D	55 TO 70 PSI
5.	L2	112 TO 175 PSI
6.	L1	112 TO 175 PSI
7.	1-2	SHIFT 1200 TO 1600
8.	2-3	SHIFT 1200 TO 1600
9.	3-4	SHIFT 1200 TO 1600
10.	FLOW	.5 TO 2.0 GPM
11.	LOCK UP	3-4 SHIFT 1600 RPMS - 55 TO 70 PSI



180/180C THM



200-4R THM

GM 200/200 C SPECIFICATIONS

1.	COOLER	15 TO 60 PSI
2.	REVERSE	144 TO 217 PSI MIN TV
3.	MAX REVERSE	205 TO 264 PSI MAX TV
4.	NEUTRAL	66 TO 79 PSI
5.	OD	N/A
6.	DRIVE	66 TO 79 PSI
7.	L2	130 TO 155 PSI
8.	L1	130 TO 155 PSI
9.	1-2 SHIFT POINT	1200 TO 1500 INPUT RPM
10.	2-3 SHIFT POINT	1220 TO 1500 INPUT RPM
11.	LOCK UP 200 C	3RD BETWEEN 25 AND 50 MPH
12.	FLOW	.5 TO 1.9 PSI

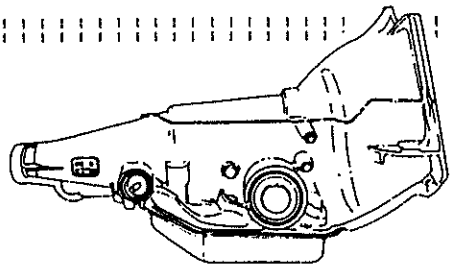
GM THM 300 POWER GLIDE SPECIFICATIONS

1.	COOLER LINE	15 TO 35 PSI
2.	R	115 TO 140 PSI
3.	MAX R	225 TO 260 PSI 0" VACUUM
4.	N	65 TO 85 PSI
5.	D	65 TO 85 PSI
6.	1-2 SHIFT POINT	1300 TO 1600 INPUT RPM
7.	2-3 SHIFT POINT	1300 TO 1600 INPUT RPM
8.	VACUUM	15" TO 18" VACUUM
9.	L-1	115 TO 145 PSI
10.	L-2	115 TO 145 PSI
11.	FLOW	.5 TO 2.2 GPM

GM THM 250/250C & 350/350C SPECIFICATION

1.	COOLER LINE	15 TO 60 PSI
2.	R	90 TO 140 PSI
3.	MAX R	230 TO 300 PSI 0" VACUUM
4.	N	60 TO 85 PSI
5.	D	60 TO 85 PSI
6.	1-2 SHIFT	1300 TO 1600 RPM
7.	2-3 SHIFT	1300 TO 1600 RPM
8.	VACUUM	15" TO 18"
9.	L-1	80 TO 110 PSI
10.	L-2	80 TO 110 PSI
11.	FLOW	.5 TO 2.0 GPM
12.	LOCK UP 250C/350C	2-3 SHIFT 12 VOLT

USE YOUR ROSTRA ANALYTICAL TOOL TO CONTROL LOCKUP, LOCATE SHORTS AND OPENS.



200C THM

GM THM 325/325 4L SPECIFICATIONS

1.	COOLER LINE	15 TO 40 PSI
2.	R.	160 TO 210 PSI
3.	MAX R	205 TO 280 PSI
4.	N	60 TO 90 PSI
5.	OD	60 TO 90 PSI
6.	1-2 SHIFT	1300 TO 1600
7.	2-3 SHIFT	1300 TO 1600
8.	3-4 SHIFT 325 4L	1300 TO 1600
9.	LOCK UP	ELECTRICAL SOLENOID - 12 VOLT USE RAT
10.	L-1	125 TO 155 PSI
11.	L-2	125 TO 155 PSI
12	TV	THROTTLE VALVE CABLE MUST BE 60 TO 90 PSI IN D/DO/N

YOUR ROSTRA ANALYTICAL TOOL (AFI-120) SHOULD BE USED TO ACTIVATE ALL GM 12 VOLT LOCK UP SYSTEMS. THE AFI-120 IS AVAILABLE THROUGH GLASSINGER & CO.

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GM THM 400/475 -(CURRENT DESIGNATIONS HYDRA-MATIC 3L80/3L80-HD)

1.	COOLER	20 TO 80 PSI
2.	R	90 TO 150 PSI
3.	MAX R	105 TO 300 PSI 0" VACUUM
4.	N	55 TO 60 PSI
5.	D	55 TO 60 PSI
6.	1-2 SHIFT POINT	1300 TO 1600 INPUT RPM
7.	2-3 SHIFT POINT	1300 TO 1600 INPUT RPM
8.	VACUUM	15" TO 18"
9.	L-1	135 TO 160 PSI
10.	L-2	135 TO 180 PSI
11.	FLOW	.5 TO 2.3 GPM

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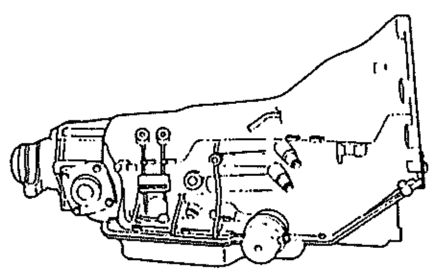
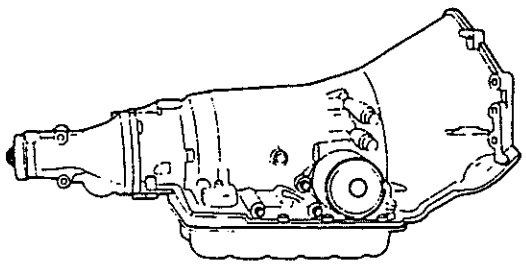


400 THM

THE 700-R4 AND 4L60 OPERATOR IN A LIKE MANNER. THE 4L80-E AND 4L80-E-HD DIFFER IN THE THAT THEY ARE ELECTRONICALLY CONTROLLED BY THE PCM POWERTRAIN CONTROL MODULE) IN GASOLINE ENGINES AND BY THE TCM TRANSMISSION CONTROL MODULE) IN DIESEL POWERED VEHICLES. WHILE YOU CAN TEST THE 700-R4/4L60 ON YOUR TT-2010 YOU MUST HAVE THE ROSTRA ANALYTICAL TOOL (THE RAT AFI-120 AND THE GM 4L80-E RAT PAK) IN ORDER TO CONTROL SHIFT SOLENOIDS, COAST CLUTCH, LOCK UP (TCC) AND TO CONTROL LINE PRESSURE (VARIABLE FORCE MOTOR - VFS) ON YOUR TT-2010. THE VFS CAN BE CONTROLLED FROM 0.98 AMP'S (35 TO 55 PSI) TO 0.02 APM'S (157 TO 177 PSI).

		TV CONTROL / PCM-VFS /TCM-VFS
1.	COOLER PRESSURES	20 TO 60 PSI
2.	REVERSE PRESSURES	92 TO 123 PSI
3.	MAX REVERSE PRESSURE	189 TO 294 PSI
4.	NEUTRAL PRESSURE	56 TO 75 PSI
5.	OVERDRIVE	56 TO 75 PSI
6.	DRIVE	56 TO 75 PSI
7.	L2	88 TO 118 PSI
8.	L1	88 TO 118 PSI
9.	1-2 SHIFT POINT	1200 TO 1350
10.	2-3 SHIFT POINT	1200 TO 1350
11.	3-4 SHIFT POINT	1200 TO 1350
	a. 9. 10. & 11. MUST ALL BE WITHIN 200 RPMs OF EACH OTHER.	
	b. 9. 10. & 11. MUST ALL BE WITHIN 10 PSI OF EACH OTHER.	
12.	LOCK UP	12 VOLT - USE RAT TO ACTIVATE LOCKUP IN 3RD. 1300 TO 1350 INPUT RPMS.



700-R4 THM

GM THM 125/125C (HYDRA-MATIC 3T40 & 3T40-A)

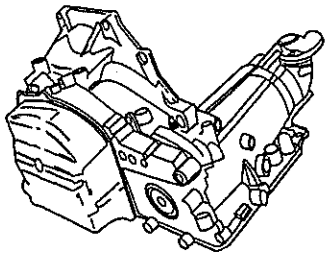
1.	COOLER	15 TO 60 PSI
2.	R	97 TO 140 PSI
3.	MAX R	183 TO 297 MAX TV
4.	N	65 TO 75 PSI
5.	D	65 TO 75 PSI
6.	L-1	90 TO 135 PSI
7.	L-2	90 TO 135 PSI
8.	SHIFT POINT 1-2	1200 TO 1500 INPUT RPM
9.	SHIFT POINT 2-3	1200 TO 1500 INPUT RPM
10.	125-C LOCKUP	2-3 SHIFT)12 - VOLT USE YOUR RAT AFI - 120 TO ACTIVATE LOCKUP.
11.	TV	SET TV CABLE TO 65 TO 75 MAIN LINE
12.	FLOW	.5 TO 2.0 GPM

USE YOUR ROSTRA ANALYTICAL TOOL (RAT AFI-120) TO ACTIVATE LOCKUP.

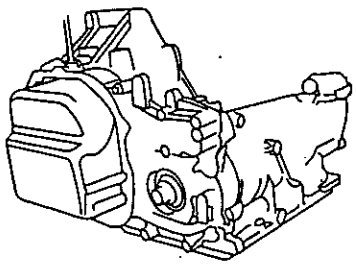
GM-THM 440-T4 / THMN F-7 (HYDRA-MATIC 4T60 & 4T60-E)

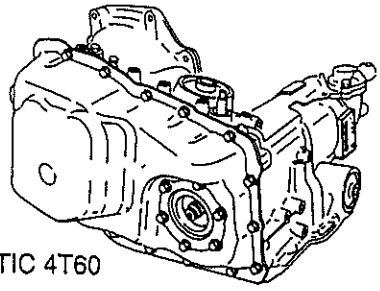
1.	COOLER	15 TO 60 PSI
2.	R	61 TO 74 PSI
3.	MAX R	209 TO 283 PSI
4.	N	61 TO 74 PSI
5.	D4 (OD)	61 TO 74 PSI
6.	SHIFT POINTS 1-2	1800 TO 2000 INPUT RPMS
7.	SHIFT POINTS 2-3	1800 TO 2000 INPUT RPMS
8.	SHIFT POINTS 3-4	2100 TO 2295 INPUT RPMS
9.	D1	137 TO 203
10.	D2	61 TO 74 PSI
11.	D3	61 TO 74 PSI
12.	D4	61 TO 74 PSI
13.	LOCK UP	LOCK UP 3RD - 12 VOLT
14.	VACUUM	15" TO 18"
15.	FLOW	.5 TO 2.1 GPM

USE YOUR ROSTRA ANALYTICAL TOOL (AFI-120) TO ACTIVATE LOCKUP. USE THE RAT S-650 TO CONTROL SHIFT, PRESSURE SOLENOIDS, AND LINE PRESSURE.



HYDRA-MATIC 3T40
(3-SPEED)





HYDRA-MATIC 4T60
(4-SPEED)

CHRYSLER A-727 / A-904 (36RH / 30RH) SPECIFICATIONS

1.	COOLER	10 TO 60 PSI
2.	R	155 TO 300 PSI
3.	MAX R	220 TO 300 PSI
4.	N	
5.	D	55 TO 75 PSI
6.	1-2 SHIFT POINT	1300 TO 1500 INPUT RPM
7.	2-3 SHIFT POINT	1300 TO 1500 INPUT RPM]
8.	L-1	55 TO 75 PSI
9.	L-2	55 TO 75 PSI
10.	FLOW	.5 TO 2.2 GPM
11.	NON-LOCKUP	

CHRYSLER A-999 / A904T (32RH) SPECIFICATIONS

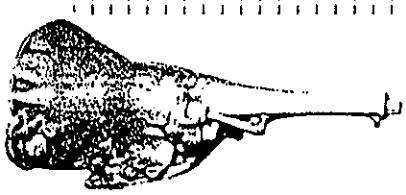
1.	COOLER	18 TO 60 PSI
2.	R	155 TO 300 PSI
3.	R MAX	230 TO 310 PSI
4.	N	
5.	D	55 TO 75 PSI
6.	1-2 SHIFT POINT	1350 TO 1500
7.	2-3 SHIFT POINT	1350 TO 1500
8.	L-1	55 TO 75 PSI
9.	L-2	55 TO 75 PSI
10.	FLOW	.5 TO 2.4 GPM
11.	LOCK UP	12 VOLT 3RD 15 TO 35 MPH, SMEC*

*USE YOUR ROSTRA ANALYTICAL TOOL (AFI-120) TO ACTIVATE THE 12 VOLT LOCK UP SIGNAL. THE AFI-120 IS AVAILABLE THROUGH GLASSINGER AND COMPANY.

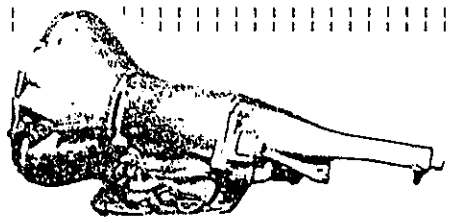
TRANS-AXLE CHRYSLER TURBO/A670 (31TH) SPECIFICATIONS

1.	COOLER	15 TO 60 PSI
2.	R.	140 TO 175 PSI
3.	MAX R	210 TO 300 PSI
4.	N	
5.	D	50 TO 80 PSI
6.	1-2 SHIFT POINT	1350 TO 1500 INPUT RPM
7.	2-3 SHIFT POINT	1350 TO 1500 INPUT RPM
8.	L-1	50 TO 75 PSI
9.	L-2	50 TO 75 PSI
10.	LOCK-UP	ACTIVATED IN DIRECT DRIVE 12 VOLT SMEC*
11.	FLOW	.5 TO 2.3 GPM

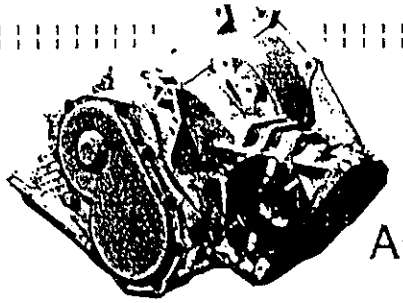
*USE YOUR ROSTRA ANALYTICAL TOOL (AFI-120) TO ACTIVATE THE 12 VOLT SMEC LOCK SIGNAL. THE AFI-120 IS AVAILABLE THROUGH TURBO TANK PRODUCTS.



A-727 / A-904



A 999-A904T



A-670

CHRYSLER MOTORS AUTOMATIC TRANSMISSION SPECIFICATION

CHRYSLER ALUMINUM TORQUE FLIGHT SPECIFICATION

1.	COOLER	18 TO 40 PSI
2.	REV	155 TO 300 PSI
3.	MAX REV	220 TO 300 PSI
4.	NEU N/A	
5.	D	55 TO 75 PSI
6.	L2 & L1	55 TO 75 PSI
7.	L1	BOOST 220 TO 300 PSI
8.	1-2 & 2-3	SHIFTS MUST OCCUR BEFORE 1500 INPUT
9.	GOVERNOR	45 PSI AT 1800 PRMS
10.	LOCK UP	WATCH FOR GAUGE BOBBLE IN MAIN LINE
11.	FLOW	.4 TO 1.9 GPM

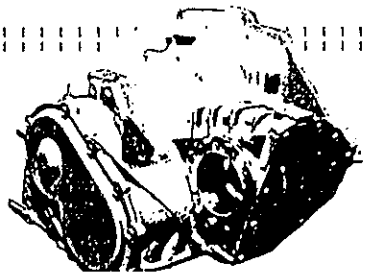
CHRYSLER A404, A413, A415, A470, TRANSAXLE SPECIFICATIONS

1.	COOLER	20 TO 60
2.	REV	140 TO 175
3.	REV MAX	210 TO 300
4.	NEU	0
5.	D	50 TO 75
6.	L2 & L1	50 TO 75
7.	SHIFT POINT 1-2	1300 TO 1400 INPUT RPM
8.	SHIFT POINT 2-3	1300 TO 1400 INPUT RPM
9.	FLOW	IN DRIVE .5 TO 2.4 GPM

CHRYSLER A500 (40RH / 42RH) SPECIFICATIONS

1.	COOLER	10 TO 40 PSI
2.	REV	155 TO 300 PSI
3.	REV MAX	220 TO 300 PSI
4.	N	55 TO 75 PSI
5.	O/D	55 TO 75 PSI
6.	SHIFT POINT 1-2	1350 TO 1550 RPM
7.	SHIFT POINT 2-3	1350 TO 1550 RPM
8.	SHIFT POINT 3-4	1350 TO 1550 RPM*
9.	L-1	55 TO 75 PSI
10.	L-2	55 TO 75 PSI
11.	LOCKUP	3RD AT 15 TO 33 MPH*
12.	FLOW	.5 TO 2.5 GPM

* USE YOUR ROSTRA ANALYTICAL TOOL (RAT) TO SIGNAL MODULE ON THE VALVE BODY FOR THE 3-4 UP-SHIFT AND THE LOCK-UP TORQUE CONVERTER FUNCTIONS. (THE ROSTRA ANALYTICAL TOOL OR THE RAT AFI-120 IS AVAILABLE FROM GLASSINGER & COMPANY.)



A404/413/415/470

CHRYSLER A-727 / A-904 (36RH / 30RH) SPECIFICATIONS

1.	COOLER	10 TO 60 PSI
2.	R	155 TO 300 PSI
3.	MAX R	220 TO 300 PSI
4.	N	
5.	D	55 TO 75 PSI
6.	1-2 SHIFT POINT	1300 TO 1500 INPUT RPM
7.	2-3 SHIFT POINT	1300 TO 1500 INPUT RPM]
8.	L-1	55 TO 75 PSI
9.	L-2	55 TO 75 PSI
10.	FLOW	.5 TO 2.2 GPM
11.	NON-LOCKUP	

CHRYSLER A-999 / A904T (32RH) SPECIFICATIONS

1.	COOLER	18 TO 60 PSI
2.	R	155 TO 300 PSI
3.	R MAX	230 TO 310 PSI
4.	N	
5.	D	55 TO 75 PSI
6.	1-2 SHIFT POINT	1350 TO 1500
7.	2-3 SHIFT POINT	1350 TO 1500
8.	L-1	55 TO 75 PSI
9.	L-2	55 TO 75 PSI
10.	FLOW	.5 TO 2.4 GPM
11.	LOCK UP	12 VOLT 3RD 15 TO 35 MPH, SMEC*

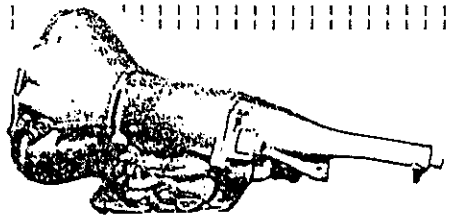
*USE YOUR ROSTRA ANALYTICAL TOOL (AFI-120) TO ACTIVATE THE 12 VOLT LOCK UP SIGNAL. THE AFI-120 IS AVAILABLE THROUGH GLASSINGER AND COMPANY.

TRANS-AXLE CHRYSLER TURBO/A670 (31TH) SPECIFICATIONS

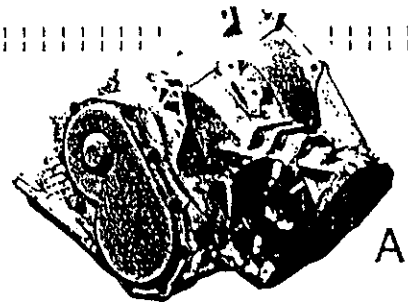
1.	COOLER	15 TO 60 PSI
2.	R.	140 TO 175 PSI
3.	MAX R	210 TO 300 PSI
4.	N	
5.	D	50 TO 80 PSI
6.	1-2 SHIFT POINT	1350 TO 1500 INPUT RPM
7.	2-3 SHIFT POINT	1350 TO 1500 INPUT RPM
8.	L-1	50 TO 75 PSI
9.	L-2	50 TO 75 PSI
10.	LOCK-UP	ACTIVATED IN DIRECT DRIVE 12 VOLT SMEC*
11.	FLOW	.5 TO 2.3 GPM

*USE YOUR ROSTRA ANALYTICAL TOOL (AFI-120) TO ACTIVATE THE 12 VOLT SMEC LOCK SIGNAL. THE AFI-120 IS AVAILABLE THROUGH TURBO TANK PRODUCTS.

A-727 / A-904



A 999-A904T



A-670

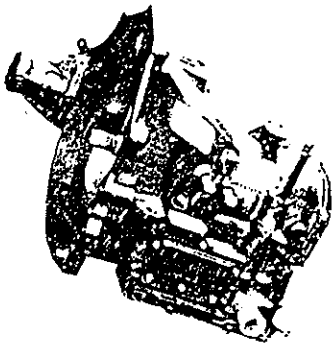
CHRYSLER A604 LIGHT, A604, A604 ALL WHEEL DRIVE - (40TE, 41E, 41AE)
TRANSAXLE SPECIFICATIONS.*

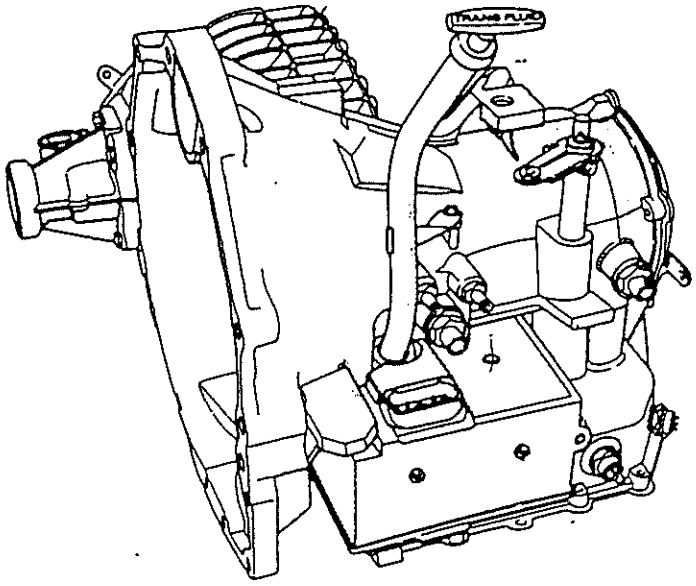
1.	COOLER	15 TO 60 PSI
2.	R	140 TO 175 PSI
3.	MAX R	210 TO 300
4.	N	
5.	D/OD	50 TO 85
6.	1-2 SHIFT POINT	1350 TO 1550
7.	2-3 SHIFT POINT	1350 TO 1550
8.	3-4 SHIFT POINT	1550 TO 2100
9.	L-1	50 TO 75 PSI
10.	L-2	50 TO 75 PSI
11.	FLOW	.5 TO 1.9 GPM
12.	LOCKUP	12 VOLT

*SOLENOID VALVES CONTROL ALL FUNCTIONS OF THE A604 TRANSMISSION. TO TEST THE 604 ON THE TT-2010 YOU WILL NEED TO USE YOUR ROSTRA ANALYTICAL TOOL! YOU WILL ALSO NEED TO USE ITS RAT-PAK S-550 TO:

1. MONITOR COMPUTER OUTPUTS TO THE TRANSMISSION
2. MONITOR PRESSURE SWITCH ACTIVITY
3. MANUALLY CONTROL LOCKUP AND SHIFT SOLENOIDS
3. TEST FOR FAULTY COMPUTER DRIVE CIRCUITS
4. MEASURE SOLENOID CURRENT DRAW
5. LOCATE SHORTS AND OPENS INSIDE AND OUTSIDE THE TRANSMISSION
6. CONTROL SOLENOID VALVES: 2-4 , LO, OVERDRIVE, UNDERDRIVE, LOCKUP AND COMPLETE DUTY CONTROL OF ALL SOLENOIDS.

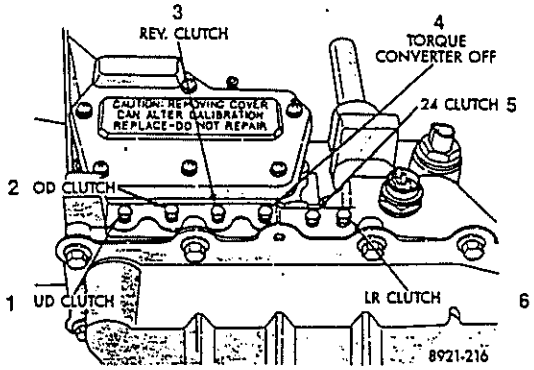
A-604





Transaxle Pressure Taps

CHRYSLER A-604



1. UNDERDRIVE CLUTCH. Modulated pressure can be read in 1st, 2nd and 3rd gears.

2. OVERDRIVE CLUTCH. Modulated pressure can be read in 3rd and 4th gears.

3. REVERSE CLUTCH. Modulated pressure can be read in reverse.

4. TORQUE CONVERTER RELEASE. Modulated pressure can be read under all conditions EXCEPT full lock up.

5. 2-4 CLUTCH. Modulated pressure can be read in 2nd and 4th gears.

6. LOW - REVERSE CLUTCH. Modulated pressure can be read in 1st gear and reverse.

Technical Bulletin #571

- Transmission:
- Subject: Ford fluids
- Application: Ford: 1976-2001 automatic & manual

October 2000

Ford Fluids

Fluid Types for 1976 Through 2001 Transmissions

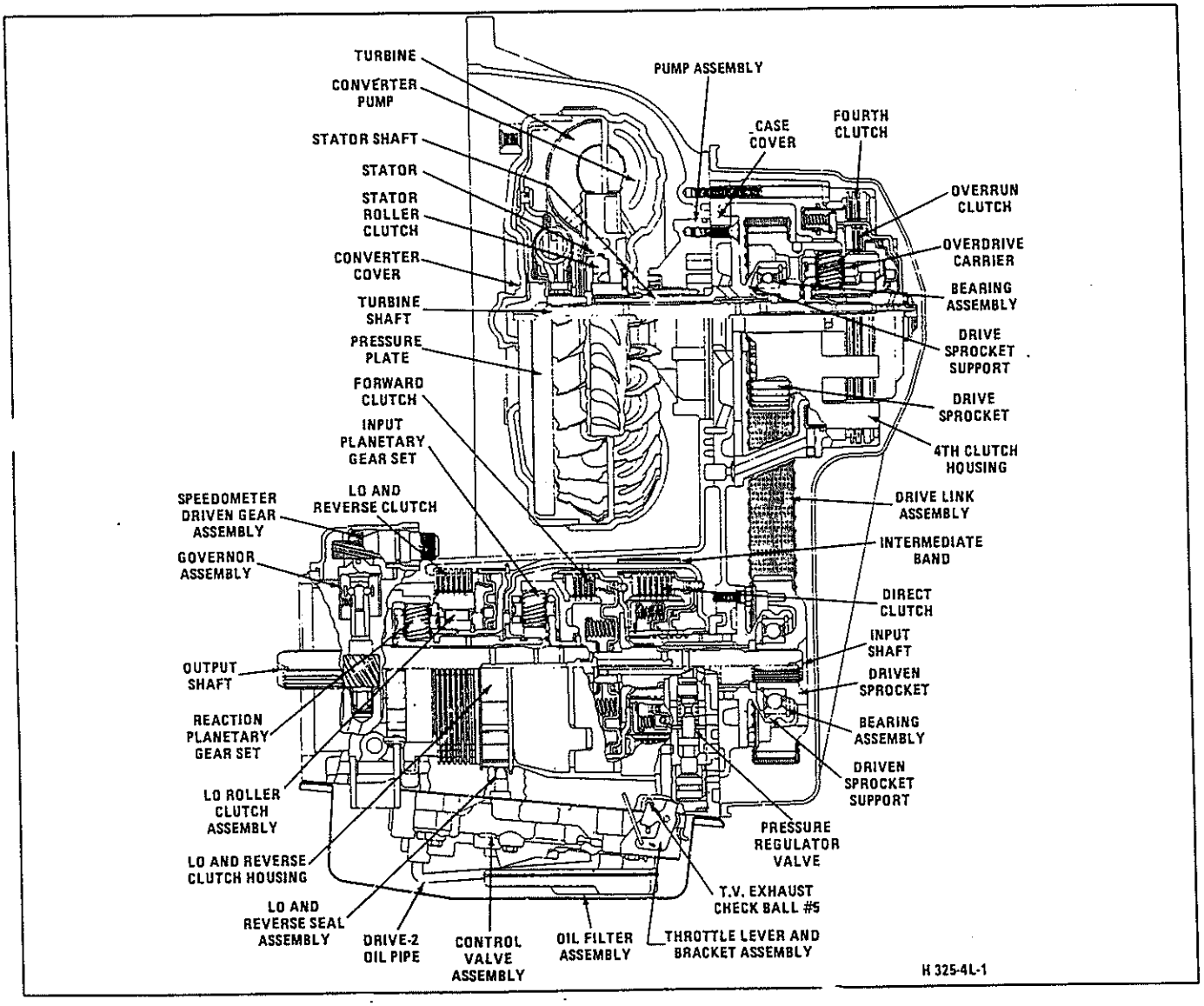
The following chart covers Ford fluid types for the transmissions from 1976-2001, manual and automatics.

Transmission Fluid Chart																
Automatic Rear Wheel Drive																
MODEL	C3	C4	C5	C6	JATCO	FMX	E4OD	4R100	AOD	AODE	4R70W	A4LD	4R44E	4R55E	5R55E	5R55N
&					TRK											
YEAR																
1976	F	F		F	F	F										
1977	F	F		M	F	F										
1978	F	F		M	F	F										
1979	F	F		M	F	F										
1980	F	M		M	F	F			M							
1981	M	M		M	F	F			M							
1982	M	M	M	M	F				M							
1983	M		M	M					M							
1984	M		M	M					M							
1985	M		M	M					M			M				
1986	M		M	M					M			M				
1987				M					M			M				
1988				M					M			M				
1989				M			M		M			M				
1990				M			M		M			M				
1991				M			M		M			M				
1992				M			M		M	M		M				
1993				M			M		M	M	M	M				
1994				M			M			M	M	M				
1995				M			M				M	M	M	M		
1996				M			M				M		M	M		
1997							M				M		5		5	
1998							M	M			5		5		5	
1999							M	M			5		5		5	
2000							M	M			5		5		5	5
2001							M	M			5		5		5	5
F= TYPE F M= MERCON 5= MERCON V																

Transmission Fluid Chart												
Automatic Front Wheel Drive												
MODEL	JATCO	ZF	ATX	MAZDA	F4E-111	4F20E	CD4E	AXOD	AX4S	AX4N	F427E	4F50E
&	CAR			(ATX)	(4EAT)				(AXODE)			(AX4N)
YEAR												
1976												
1977	M											
1978	M											
1979	M											
1980												
1981			M									
1982			M									
1983			M									
1984		M	M									
1985		M	M									
1986			M	M				M				
1987			M	M				M				
1988			M	M				M				
1989			M	M	M			M				
1990			M	M	M			M				
1991			M	M	M				M			
1992			M	M	M				M			
1993			M	M	M	M			M			
1994				M	M	M	M		M	M		
1995				M	M	M	M		M	M		
1996				M	M	M	M		M	M		
1997				M	M	M	M		M	M		
1998					M	M	M		5	5		
1999					M	M	M		5	5		
2000					M	M	M		5	5	5	5
2001						M	M		5			5
F=TYPE F M= MERCON 5= MERCON V												

Transmission Fluid Chart											
Manual Transmissions											
Front Wheel Drive					Rear Wheel Drive						
TYPE	MTX-1	MT	MT	G1	T5	M5	M5	M5O/D	T45	S5-47 ZF	ZF6S
&	(4SPD)	(M					M5				
MODEL	MTX-11										
	(5SPD)										
1976											
1977											
1978											
1979											
1980											
1981	F										
1982	F										
1983	F										
1984	F										
1985	F										
1986	F										
1987	F				M	M					
1988	M				M	M	M				
1989	M				M	M	M				
1990	M				M	M	M				
1991	M				M	M	M				
1992	M				M	M	M	M			
1993	M				M	M	M	M			
1994	M	M			M	M	M	M			
1995		M	M		M	M	M	M		M	
1996		M	M		M	M	M	M		M	
1997		M	M		M	M	M	M	M	M	M
1998		M			M	M	M	M	M	M	M
1999				Ms	M	M		M	M	Ms	Ms
2000				Ms	M	M		M	M	Ms	Ms
2001				Ms		M		M		Ms	Ms
F = TYPE F M = MERCON Ms = MERCON SYNTHETIC											

AUTOMATIC 325-4L TRANSMISSION



GENERAL DESCRIPTION

The Model 325-4L Automatic Transmission is a fully automatic front wheel drive unit consisting primarily of a 4-element hydraulic torque converter with a converter clutch, 3 compound planetary gear sets and an overdrive unit. Five multiple-disc clutches, two roller clutches and a band provide the friction elements required to obtain the desired function of the compound planetary gear set and the overdrive unit. Engine torque is transmitted.

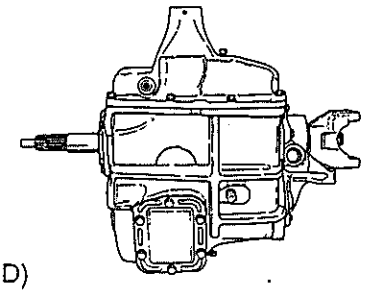
The torque converter smoothly couples the engine to the provides additional torque multiplication when required. The combination of the compound planetary gear set and the overdrive unit provides four forward ratios and one reverse. Changing of the gear ratios is fully automatic in relation to vehicle speed and engine torque. Vehicle speed and engine torque signals are constantly fed to the transmission to provide the proper gear ratios for maximum efficiency and performance at all throttle openings.

A hydraulic system pressurized by a gear type pump provides the working pressure required to operate the friction elements and

HM-117 TRANSMISSION

RPO CODE M20

Produced at: Muncie, IN



HM-117
(4-SPEED)

Vehicles used in:

C/K	PICK-UP & CHASSIS CAB
P	CHASSIS & VAN, SCHOOL BUS, MOTOR HOME CHASSIS
R/V	CHASSIS CAB, SUBURBAN / BLAZER / JIMMY

BASIC SPECIFICATIONS

Current Vehicle Platforms
Domestic: C/K, P, R/V

Current Engine Range
4.3L to 7.4L Gas
6.2L Diesel

Transmission Drive
Rear Wheel Drive
4-Wheel Drive

Transmission Type
117 – 4-Speed Manual

Gear Ratios

1st	6.55
2nd	3.58
3rd	1.70
4th	1.00
REV	6.09

Maximum Trailer Towing Capacity
Varies with GVWR & Model Applications
Trailer towing is only available for certain models.

Maximum Gross Vehicle Weight
6,577 Kg (14,500 LBS)

Transmission Fluid Capacity (Approximate)†
Dry: 4.0L (4 QTS)

Transmission Fluid Type
SAE-80W or SAE-80W-90
GM Material Specification #9985133

Transmission Weight

C-2WD	Dry: 77.0 Kg (170 LBS)	Wet: 80.1 Kg (177 LBS)
K-4WD	Dry: 81.1 Kg (179 LBS)	Wet: 84.3 Kg (186 LBS)
R-2WD	Dry: 79.7 Kg (176 LBS)	Wet: 82.9 Kg (183 LBS)
V-4WD	Dry: 86.9 Kg (192 LBS)	Wet: 90.1 Kg (199 LBS)

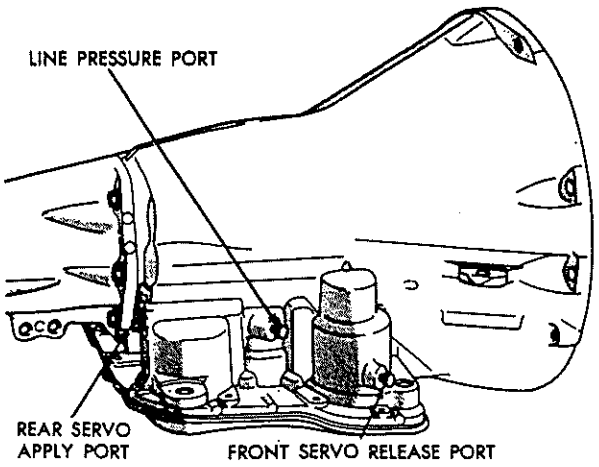
Center Distance
117mm

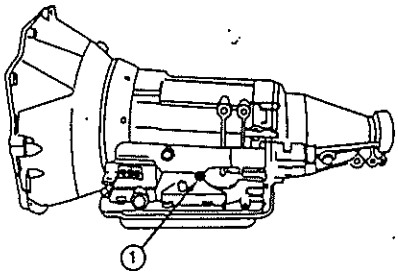
Maximum Input Speed
6000 RPM

Clutch Actuation
Mechanical or Hydraulic

Case Material
Cast Iron

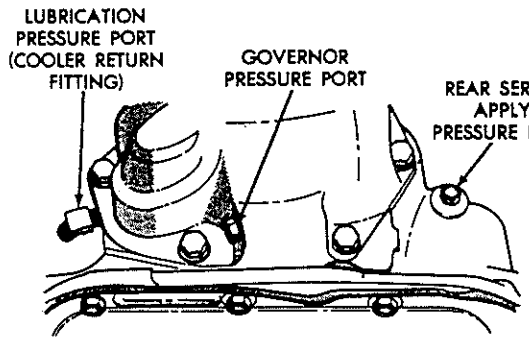
†REFER TO SERVICE MANUAL FOR COMPLETE OVERHAUL FLUID FILL CAPACITY

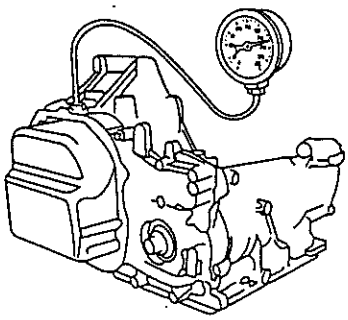


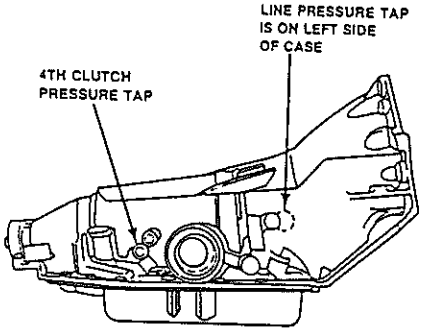


180/180C THM

1. SERVO APPLY PLUG LOCATION

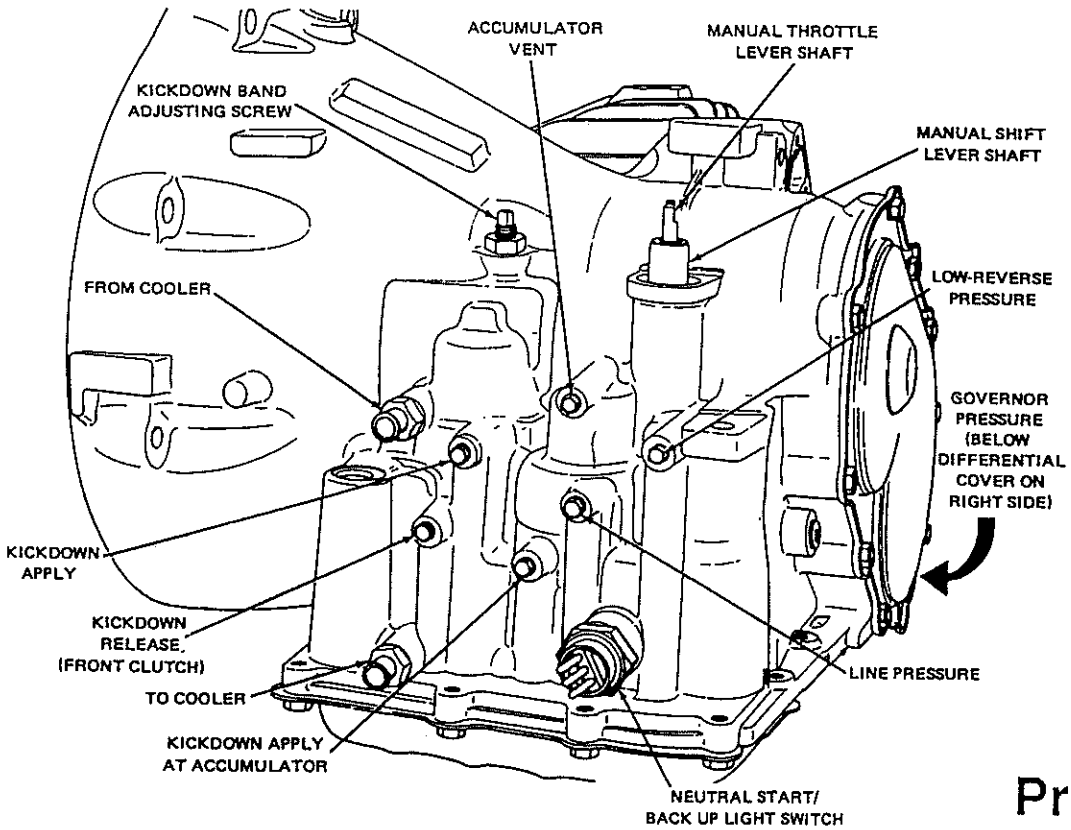






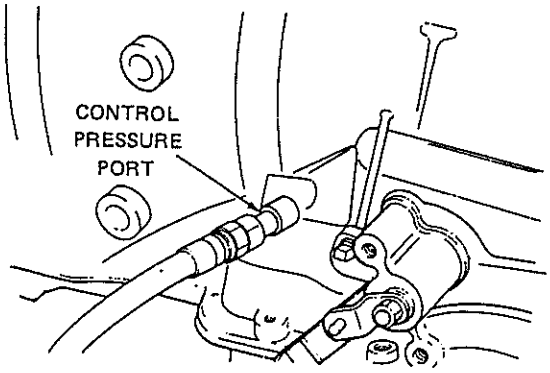
A pressure gage hooked to a THM 125C transaxle. (*Chevrolet Div. of GM*)

. . Pressure test locations for all 904/727 Torqueflite transmissions. (*Chrysler Corp.*)

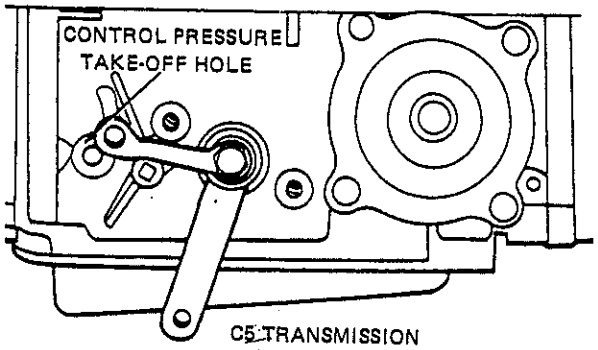


Pressure Taps

Pressure test locations for all Chrysler FWD transaxles. (*Chrysler Corp.*)

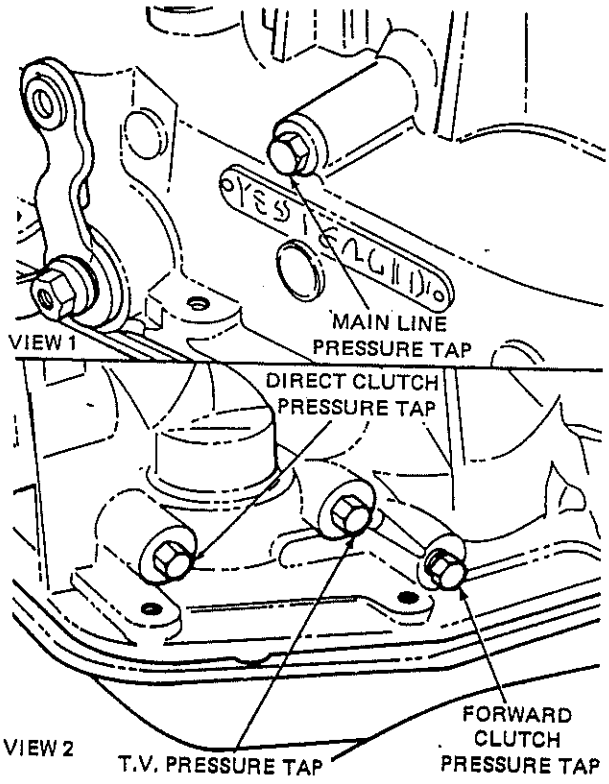


C-6

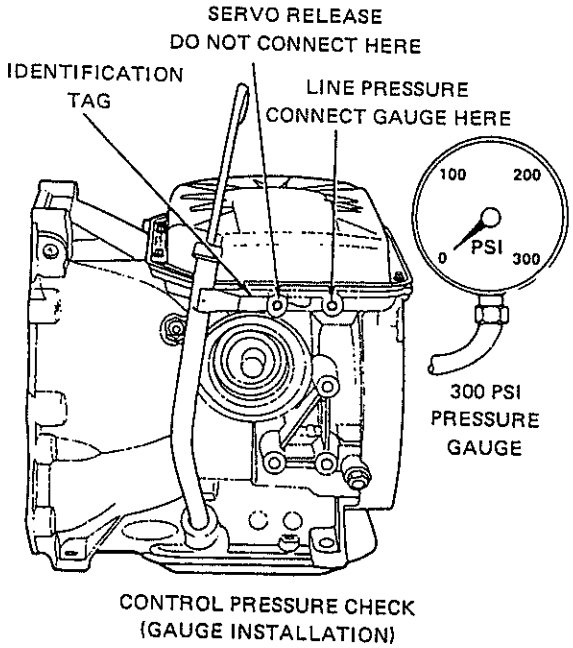


C5 TRANSMISSION

C4-C5

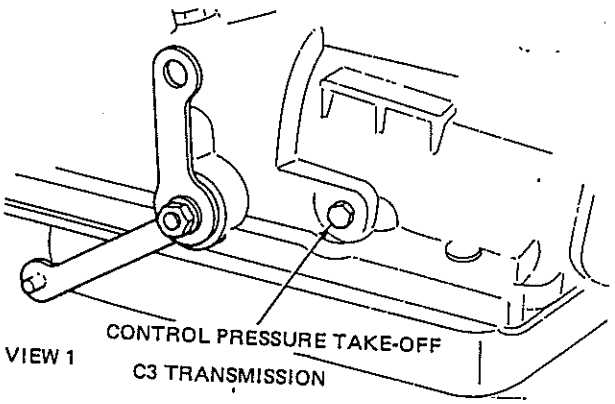


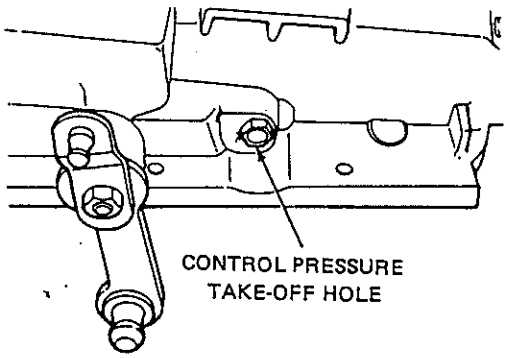
AOD



CONTROL PRESSURE CHECK
(GAUGE INSTALLATION)

ATX





A4LD

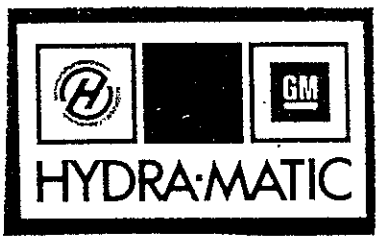
Pressure test locations for the C3, C4, C5, C6, ATX, A4LD, and AOD transmissions.
(*Ford Motor Co.*)

Pressure Taps

HYDRA-MATIC PRODUCT DESIGNATION SYSTEM

The following system will be in full effect by September 1, 1991. In the interim, all products will be referred to using both the current and former designations. For example: HYDRA-MATIC 3T40 (formerly THM 125C).

CURRENT DESIGNATIONS	FORMER DESIGNATIONS
AUTOMATIC PRODUCTS	
HYDRA-MATIC 3L30	THM 180/180C
HYDRA-MATIC 4L30-E	THM R-1
THM 200-4R	THM 200-4R
HYDRA-MATIC 4L60	THM 700-R4
HYDRA-MATIC 3L80/3L80-HD	THM 400/475
HYDRA-MATIC 3T40/3T40-A	THM 125C/THM A-1
HYDRA-MATIC 4T60	THM 440-T4
HYDRA-MATIC 4T60-E	THM F31
MANUAL PRODUCTS	
HYDRA-MATIC 5LM60	HM-290
HM-117	HM-117
HYDRA-MATIC 5TM40	HM-282

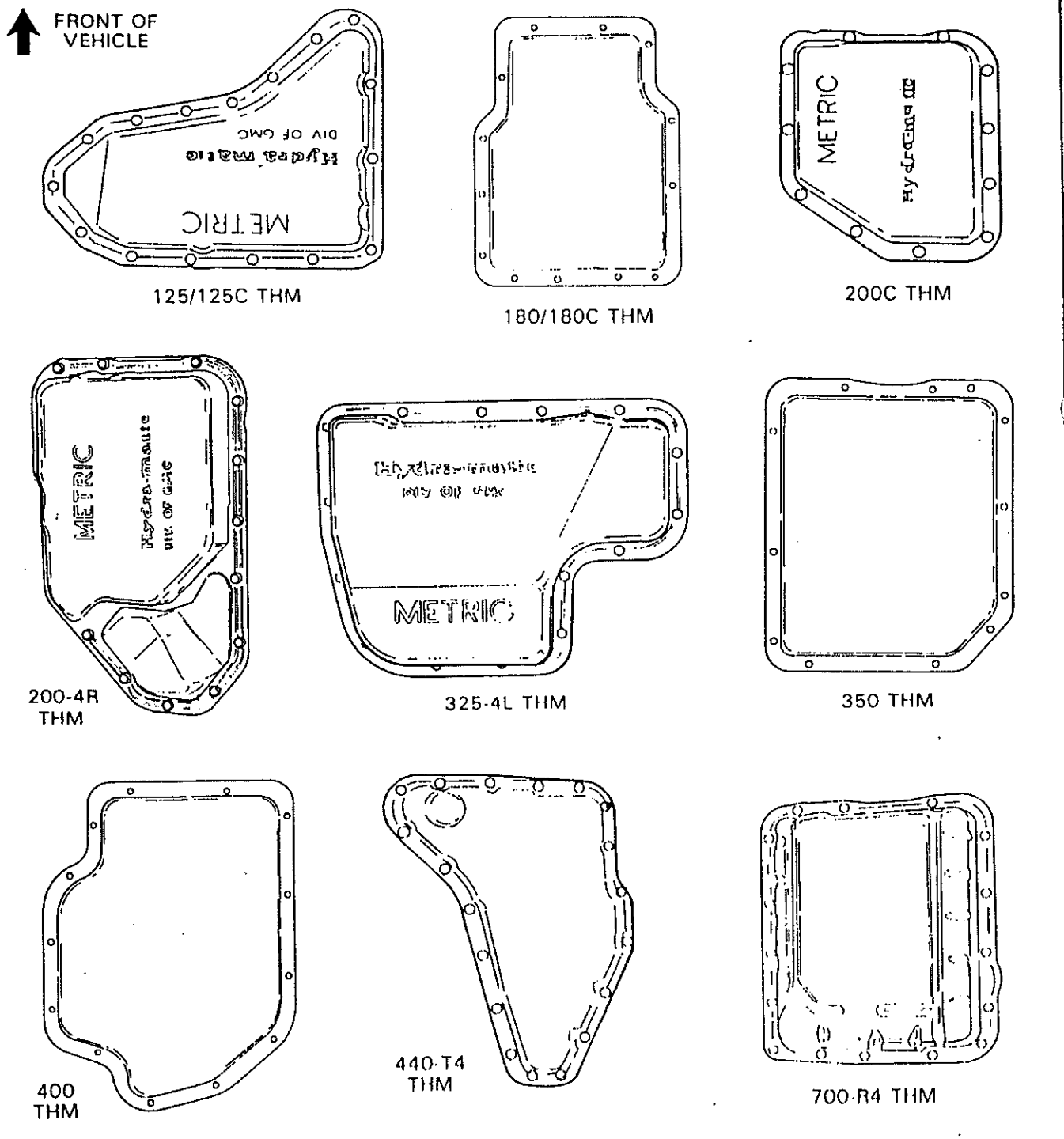


DESIGNATION CODE

HYDRA-MATIC	3	T	40	--	E
	Number of Speeds:	Type	Series		Major Features:
	3 4 5	T - Transverse L - Longitudinal M - Manual	Based on Relative Torque Rating		E - Electronic Controls A - All-Wheel Drive HD - Heavy Duty

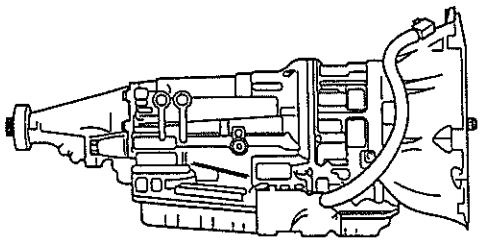
TRANSMISSION IDENTIFICATION

Hydra-matic products are easily identified from the customers point of view by the shape of the bottom pan. Information relating to which transmission is incorporated in which model is available in the brochure that accompanies this book. Engine size, emission controls, availability, and design concerns all play a part in assigning transmission models to vehicle models.



HYDRA-MATIC 4L30-E TRANSMISSION

Produced at: Strasbourg, France



HYDRA-MATIC 4L30-E
(4-SPEED)

Vehicles used in:

- OPEL OMEGA
- OPEL SENATOR
- ISUZU TROOPER

BASIC SPECIFICATIONS

Current Vehicle Platforms
Cars: Opel (Omega and Senator)
Trucks/Vans: Isuzu (Trooper)

Current Engine Range
1.6L to 3.1L Gas

Transmission Drive
Rear Wheel Drive

Transmission Types
4L30-E – 4-Speed Automatic Overdrive with a Torque Converter Clutch

Gear Ratios

1st	2.40	2.86
2nd	1.48	1.62
3rd	1.00	1.00
4th	0.72	0.72
REV	1.92	1.92

Maximum Trailer Towing Capacity
Varies with GVWR and Model Applications
Trailer towing is only available for certain models.

Maximum Gross Vehicle Weight
3,500 Kg (7,716 LBS)

Transmission Fluid Capacity (Approximate)†
Dry: 6.4L (7 QTS) with 245mm*
7.8L (8 QTS) with 260mm*

Transmission Fluid Type
Dexron II®

Transmission Weight
Dry: 66.7 Kg (147.05 LBS) for 245mm*
70.0 Kg (154.32 LBS) for 260mm*
Wet: 72.3 Kg (159.39 LBS) for 245mm*
76.8 Kg (169.31 LBS) for 260mm*

***Converter Size**
245mm and 260mm (Reference)

7 Position Quadrant
(P, R, N, D, 3, 2, 1)

Pressure Taps Available
Line Pressure

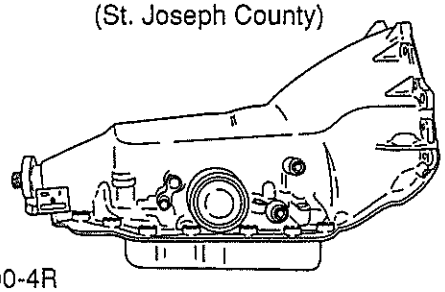
Case Material
Die Cast Aluminum

†REFER TO SERVICE MANUAL FOR COMPLETE OVERHAUL FLUID FILL CAPACITY

THM 200-4R TRANSMISSION

RPO CODE MW9

Produced at: Three Rivers, Mich.
(St. Joseph County)



THM 200-4R
(4-SPEED)

Vehicles used in:

	BUICK	CADILLAC	CHEVROLET	OLDSMOBILE	PONTIAC
B Body	ESTATE WAGON		CAPRICE[1]	CUSTOM CRUISER	
D Body		BROUGHAM			

[1] ALSO USED IN CAPRICE WAGON

BASIC SPECIFICATIONS

Current Vehicle Platforms
Domestic: B, B Wagon, D

Current Engine Range
3.8L to 5.0L Gas

Transmission Drive
Rear Wheel Drive

Transmission Types
200-4R – 4-Speed Automatic
Overdrive with a
Torque Converter Clutch

Gear Ratios

1st	2.74
2nd	1.57
3rd	1.00
4th	0.67
REV	2.07

Maximum Trailer Towing Capacity
2,722 Kg (6,000 LBS)
Trailer towing is only available for certain models.

Maximum Gross Vehicle Weight
2,722 Kg (6,000 LBS)

Transmission Fluid Capacity (Approximate)†
Dry: 10.4L (11 QTS)

Transmission Fluid Type
Dexron II®

Transmission Weight
Dry: 71.2 Kg (157.00 LBS)
Wet: 80.4 Kg (177.27 LBS)

Converter Size
298mm (Reference)

7 Position Quadrant
(P, R, N, (D), 3, 2, 1)

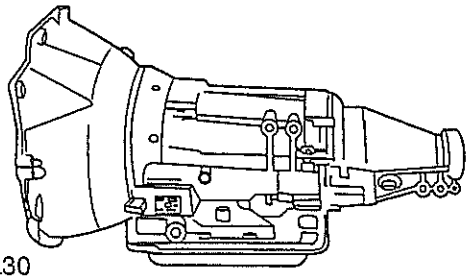
Pressure Taps Available
Line Pressure
Fourth Clutch Pressure

Case Material
Die Cast Aluminum

†REFER TO SERVICE MANUAL FOR COMPLETE OVERHAUL FLUID FILL CAPACITY

HYDRA-MATIC 3L30 TRANSMISSION
(FORMERLY THM 180/180C)

Produced at: Strasbourg, France



HYDRA-MATIC 3L30
(3-SPEED)

Vehicles used in:

- S-10 CHASSIS POSTAL VEHICLE
- CHEVROLET / GEO TRACKER
- SUZUKI SIDEKICK

BASIC SPECIFICATIONS

Current Vehicle Platforms
Trucks/Vans: GEO Tracker
Suzuki Sidekick
S-10 Chassis Postal Vehicle

Current Engine Range
1.3L to 2.5L Gas

Transmission Drive
Rear Wheel Drive

Transmission Types
3L30 – 3-Speed Automatic with a Torque Converter Clutch

Gear Ratios

1st	2.40
2nd	1.48
3rd	1.00
REV	1.92

Maximum Trailer Towing Capacity
Varies with GVWR and Model Applications
Trailer towing is only available for certain models.

Maximum Gross Vehicle Weight
3,500 Kg (7,716 LBS)

Transmission Fluid Capacity (Approximate)†
Dry: 6.0L (6.3 QTS) with 245mm*
7.4L (7.8 QTS) with 260mm*

Transmission Fluid Type
Dexron II®

Transmission Weight
Dry: 53.3 Kg (117.50 LBS) for 245mm*
56.6 Kg (124.77 LBS) for 260mm*
Wet: 58.6 Kg (129.08 LBS) for 245mm*
63.1 Kg (139.05 LBS) for 260mm*

***Converter Size**
245mm and 260mm (Reference)

6 Position Quadrant
(P, R, N, D, 2, 1)

Pressure Taps Available
Line Pressure

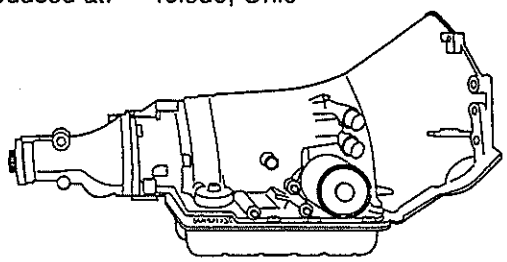
Case Material
Die Cast Aluminum

†REFER TO SERVICE MANUAL FOR COMPLETE OVERHAUL FLUID FILL CAPACITY

HYDRA-MATIC 4L60 TRANSMISSION

(FORMERLY THM 700-R4) RPO CODE MD8

Produced at: Toledo, Ohio



HYDRA-MATIC 4L60
(4-SPEED)

Vehicles used in:

	BUICK	CADILLAC	CHEVROLET	OLDSMOBILE	PONTIAC
B Body			CAPRICE		
D Body		BROUGHAM			
F Body			CAMARO		FIREBIRD
Y Body			CORVETTE		

Light Duty Trucks used in:

C/K PICK-UP & CHASSIS CAB	S/T TRUCK & REGULAR UTILITY
R/V SUB., CHASSIS, CREW CAB	G & M VANS

[1] 4L60 IS ALSO USED IN V-10 BLAZER / JIMMY MODELS
ALSO USED IN: • EXCALIBER • HOLDEN'S (V-6 AND V-8)

BASIC SPECIFICATIONS

Current Vehicle Platforms
Cars: B, D, F, Y
Trucks: C/K, R/V, S/T
Vans: G/R, M/L
Worldwide: Excaliber, Holden's

Current Engine Range
2.5L to 5.7L Gas
6.2L Diesel

Transmission Drive
Rear Wheel Drive
4-Wheel Drive

Transmission Types
4L60 – 4-Speed Automatic Overdrive with a Torque Converter Clutch

Gear Ratios

1st	3.06
2nd	1.63
3rd	1.00
4th	0.70
REV	2.29

Maximum Trailer Towing Capacity
3,175 Kg (7,000 LBS)
Trailer towing is only available for certain models.

Maximum Gross Vehicle Weight
3,900 Kg (8,600 LBS)

Transmission Fluid Capacity (Approximate)†
Dry: 7.9L (8 QTS) with 245mm*
10.6L (11 QTS) with 298mm*

Transmission Fluid Type
Dexron II®

Transmission Weight
Dry: 69.0 Kg (152.10 LBS) with 245mm*
74.2 Kg (163.50 LBS) with 298mm*
Wet: 75.9 Kg (167.35 LBS) with 245mm*
83.4 Kg (183.96 LBS) with 298mm*

***Converter Size**
245mm and 298mm (Reference)

7 Position Quadrant
(P, R, N, (D), 3, 2, 1) / (P, R, N, OD, D, 2, 1)

Pressure Taps Available
Line Pressure

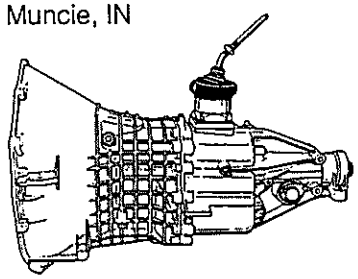
Case Material
Die Cast Aluminum

†REFER TO SERVICE MANUAL FOR COMPLETE OVERHAUL FLUID FILL CAPACITY

HYDRA-MATIC 5LM60 TRANSMISSION

(FORMERLY HM-290) RPO CODE MG5 AND MY2

Produced at: Muncie, IN



HYDRA-MATIC 5LM60
(5-SPEED)

Vehicles used in:

C/K	PICK-UP & LIGHT CHASSIS CAB
S/T	PICK-UP & LIGHT CHASSIS CAB

BASIC SPECIFICATIONS

Current Vehicle Platforms
Domestic: C/K Truck
S/T Truck

Current Engine Range
4.3L to 5.7L Gas

Transmission Drive
Rear Wheel Drive
4-Wheel Drive

Transmission Type
5LM60 – 5-Speed Manual

Gear Ratios:	For MG5	For MY2
1st	4.01	– –
2nd	2.32	– –
3rd	1.40	– –
4th	1.00	1.00
5th	0.73	– –
REV	3.74	– –

Maximum Trailer Towing Capacity
Varies with GVWR & Model Applications
Trailer towing is only available for certain models.

Maximum Gross Vehicle Weight
3,266 Kg (7,200 LBS)

Transmission Fluid Capacity (Approximate)†
Dry: 1.98L (2 QTS)

Transmission Fluid Type
5W30
GM Material Specification #9985535
Service P/N 1052931

Transmission Weight
Dry: 47.1 Kg (104.0 LBS)
Wet: 48.8 Kg (107.7 LBS)

Center Distance
85mm

Maximum Input Speed
6000 RPM

Clutch Actuation
Hydraulic

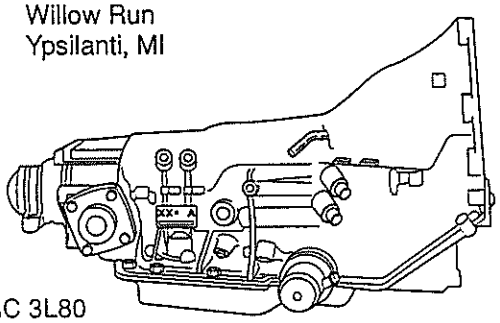
Case Material
Die Cast Aluminum

†REFER TO SERVICE MANUAL FOR COMPLETE OVERHAUL FLUID FILL CAPACITY

HYDRA-MATIC 3L80/3L80-HD TRANSMISSION

(FORMERLY THM 400/475) RPO CODE M40/M41

Produced at: Willow Run
Ypsilanti, MI



HYDRA-MATIC 3L80
(3-SPEED)

Vehicles used in:

C/K	PICK-UP & CHASSIS CAB
D	ARMORED LIMOUSINE
G	VAN, SPORTVAN, SCHOOL BUS, HI-CUBE / CUTAWAY VAN
P	CHASSIS, VAN, SCHOOL BUS MOTOR HOME CHASSIS
R/V	LIGHT CHASSIS CAB, SUBURBAN

ALSO USED IN: • BENTLEY • CALLOWAY CARS • JAGUAR (XJS) • ROLLS ROYCE

BASIC SPECIFICATIONS

Current Vehicle Platforms
Cars: Jaguar, Rolls Royce, Cadillac Armored Limousine
Trucks/Vans: C/K, G, P, R/V, AM-General (Military)
Special Applications: Motor Homes, School Buses

Current Engine Range
4.3L to 7.4L Gas
6.2L Diesel

Transmission Drive
Rear Wheel Drive
4-Wheel Drive

Transmission Types
3L80/3L80-HD – Heavy Duty 3-Speed Automatic

Gear Ratios

1st	2.48
2nd	1.48
3rd	1.00
REV	2.08

Maximum Trailer Towing Capacity
Varies with GVWR and Model Applications
Trailer towing is only available for certain models.

Maximum Gross Vehicle Weight
400 – 5,450 Kg (12,000 LBS)
475 – 6,577 Kg (16,500 LBS)

Transmission Fluid Capacity (Approximate)†
Dry: 10.2L (10.5 QTS)

Transmission Fluid Type
Dexron II®

Transmission Weight
Dry: 77.2 Kg (170.25 LBS)
Wet: 86.0 Kg (189.55 LBS)

Converter Size
310mm (Reference)

6 Position Quadrant
(P, R, N, D, 2, 1)

Pressure Taps Available
Line Pressure

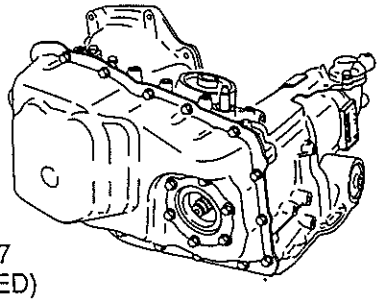
Case Material
Die Cast Aluminum

†REFER TO SERVICE MANUAL FOR COMPLETE OVERHAUL FLUID FILL CAPACITY

THM F-7 TRANSAXLE

RPO CODE ME9

Produced at: Warren, MI



THM F-7
(4-SPEED)

Vehicles used in:

	BUICK	CADILLAC	CHEVROLET	OLDSMOBILE	PONTIAC
V Body		ALLANTE'			

BASIC SPECIFICATIONS

Current Vehicle Platforms
Domestic: V (GM 35)

Current Engine Range
4.5L Gas

Transaxle Drive
Transverse Mounted Front Wheel Drive

Transfer Design
2-Axis Design – Link Chain Assembly

Transaxle Type
F-7 – 4-Speed Automatic Overdrive
With A Viscous Converter Clutch

Gear Ratios

1st	2.92
2nd	1.57
3rd	1.00
4th	0.71
REV	2.39

Maximum Trailer Towing Capacity
Currently No Trailer Towing is allowed

Maximum Gross Vehicle Weight
2,903 Kg (6,400 LBS)

Transaxle Fluid Capacity (Approximate)
Bottom Pan Removal: 6.6L (7 QTS)
Complete Overhaul: 8.5L (9 QTS)
Dry: 11.4L (12 QTS)

Transaxle Fluid Type
Dexron II®

Transaxle Weight
Dry: 80.1 Kg (176.61 LBS)
Wet: 90.1 Kg (198.61 LBS)

Converter Size
245mm (Reference)

7 Position Quadrant
(P, R, N, (D), D, 2, 1)

Pressure Taps Available
Line Pressure
Governor Pressure

Case Material
Die Cast Aluminum

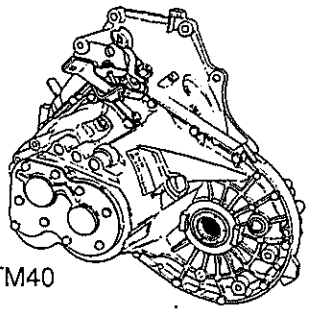
Chain Ratios	28/27*
Final Drive Ratios	Overall Final Drive Ratios Available
3.06	2.95
3.33	3.21

* DESIGNATES NUMBER OF TEETH ON THE DRIVE/DRIVEN SPROCKETS RESPECTIVELY

HYDRA-MATIC 5TM40 TRANSAXLE

(FORMERLY HM-282) RPO CODE'S MG1, MG2, AND MY5

Produced at: Muncie, IN



HYDRA-MATIC 5TM40
(5-SPEED)

Vehicles used in:

	BUICK	CADILLAC	CHEVROLET	OLDSMOBILE	PONTIAC
J Body			CAVALIER		SUNBIRD [1]
L Body			CORSICA BERETTA		
N Body					GRAND AM
W Body				CUTLASS SUPREME	GRAND PRIX

[1]TURBO APPLICATION AVAILABLE

BASIC SPECIFICATIONS

Current Vehicle Platforms
Domestic: J, L, N, W

Current Engine Range
2.0L to 2.8L Gas

Transaxle Drive
Transverse Front Wheel Drive

Transaxle Type
5TM40 (MG1) – 5-Speed Manual For Turbo Application
(MG2) – 5-Speed Manual
(MY5) – 5-Speed Manual For Quad 4/HO Application

Gear Ratios:	For MG1	For MG2	For MY5
1st	3.50	3.50	3.50
2nd	2.19	2.05	2.19
3rd	1.38	1.38	1.38
4th	0.94	0.94	1.03
5th	0.72	0.72	0.82
REV	3.41	3.41	3.41

Final Drive Ratio
3.61

Maximum Trailer Towing Capacity
Varies with GVWR & Model Applications
Trailer towing is only available for certain models.

Maximum Gross Vehicle Weight
1,814 Kg (4,000 LBS)

Transaxle Fluid Capacity (Approximate)†
Dry: J, N 1.9L (2 QTS)
Dry: L, W 2.1L (2 QTS)

Transaxle Fluid Type
Synchromesh Transmission Fluid
GM Material Specification #9985648
Service P/N 12345349

Transaxle Weight
Dry: 39.9 Kg (88 LBS)
Wet: 41.7 Kg (92 LBS)

Center Distance
76mm

Maximum Input Speed
7000 RPM

Recommended Shift Speed*
1 to 2 15 MPH
2 to 3 30 MPH
3 to 4 40 MPH
4 to 5 45 MPH

Clutch Actuation
Hydraulic

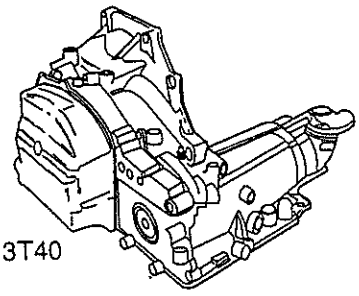
Case Material
Die Cast Aluminum

†REFER TO SERVICE MANUAL FOR COMPLETE OVERHAUL FLUID FILL CAPACITY.
*THESE SPEEDS WILL VARY DEPENDING UPON PLATFORM AND ENGINE SIZE USED.

HYDRA-MATIC 3T40 TRANSAXLE / 3T40-A TRANSMISSION

(FORMERLY THM 125C / THM A-1) RPO CODE MD9

Produced at: Willow Run, Ypsilanti, MI
Windsor, Ontario



HYDRA-MATIC 3T40
(3-SPEED)

Vehicles used in:

	BUICK	CADILLAC	CHEVROLET	OLDSMOBILE	PONTIAC
A Body	CENTURY		CELEBRITY	CIERA	6000[1]
J Body	SKYHAWK		CAVALIER		SUNBIRD[2]
L Body			CORSICA BERETTA		
N Body	SKYLARK			CALAIS	GRAND AM
U Van			LUMINA APV	SILHOUETTE	TRANS SPORT
W Body			LUMINA		

[1] 3T40-A ALL-WHEEL DRIVE IS OPTIONAL FOR 6000 STE
[2] TURBO APPLICATION AVAILABLE
ALSO USED IN: • PONTIAC/DAEWOO (LE MANS) • OPEL (T-CAR)

BASIC SPECIFICATIONS

Current Vehicle Platforms
Domestic: A, J, L, N, U-Van, W
Worldwide: A, J, T

Current Engine Range
1.6L to 3.3L Gas

Transaxle Drive
Transverse Mounted Front Wheel Drive
Transverse Mounted All Wheel Drive

Transfer Design
2-Axis Design – Link Chain Assembly

Transaxle/Transmission Types
3T40 – 3-Speed Automatic With A Torque Converter Clutch (Also Produced Without Torque Converter Clutch)
3T40-A – 3-Speed Automatic With A TCC & AWD Application

Gear Ratios

1st	2.84
2nd	1.60
3rd	1.00
REV	2.07

Maximum Trailer Towing Capacity
907 Kg (2,000 LBS)
Trailer towing is only available for certain models.

Maximum Gross Vehicle Weight
1,814 Kg (4,000 LBS)

Transaxle Fluid Capacity (Approximate)

	3T40	3T40-A
Bottom Pan Removal:	3.8L (4 QTS)	4.7L (5 QTS)
Complete Overhaul:	6.6L (7 QTS)	7.5L (8 QTS)
Dry:	8.5L (9 QTS)	9.5L (10 QTS)

Transaxle Fluid Type
Dexron II®

Transaxle Weight
3T40 – Dry: 65.7 Kg (144.81 LBS)
Wet: 73.1 Kg (161.22 LBS)
3T40-A – Dry: 96.9 Kg (214.00 LBS)
Wet: 100.5 Kg (222.00 LBS)

Converter Size
245mm (Reference)

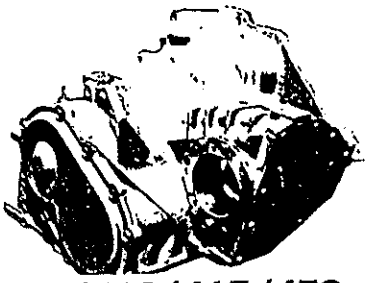
6 Position Quadrant
(P, R, N, D, 2, 1) / (P, R, N, D, I, L)

Pressure Taps Available
Line Pressure & Governor Pressure

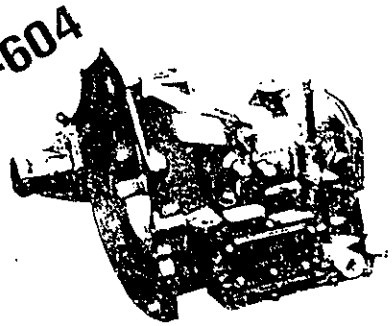
Case Material
Die Cast Aluminum

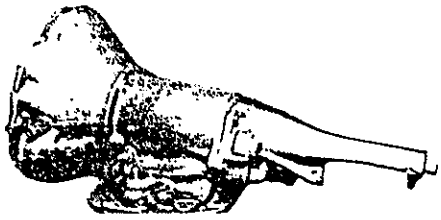
Chain Ratios	33/37*	35/35	37/33	38/32
Final Drive Ratios	Overall Final Drive Ratios Available			
2.84	3.18	2.84	2.53	2.39
3.06	3.43	3.06	2.73	2.58
3.33	3.73	3.33	2.97	2.80

* DESIGNATES NUMBER OF TEETH ON THE DRIVE/DRIVEN SPROCKETS RESPECTIVELY



A404/413/415/470





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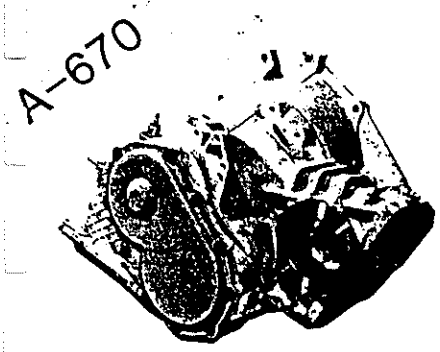


A-727 / A-904

CHRYSLER UPDATE

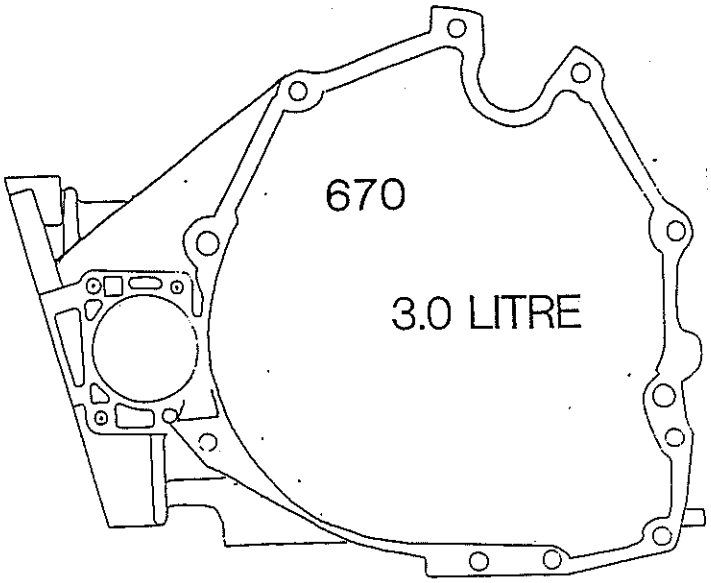
BE ADVISED THAT BEGINNING IN 1992, CHRYSLER WILL BEGIN TO USE NEW DESIGNATIONS FOR THEIR AUTOMATIC TRANSMISSIONS.

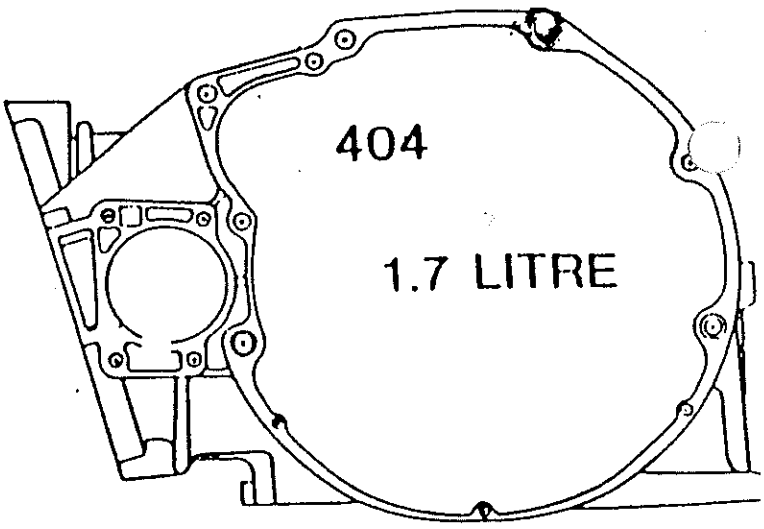
OLD DESIGNATION	NEW DESIGNATION
A404	30TH
A413 Turbo/A670	31TH
A604 Light	40TE
A604	41TE
A604 All Wheel Drive	41AE
* A606	42LE
A904	30RH
A998	31RH
A999	32RH
A727	36RH
A727HD (Diesel)	37RH
A500 (A904 Body)	40RH
A500 (A999 Body)	42RH
* A500SE	42RE
A518	46RH
* A518ES	46RE
* A618	47RH

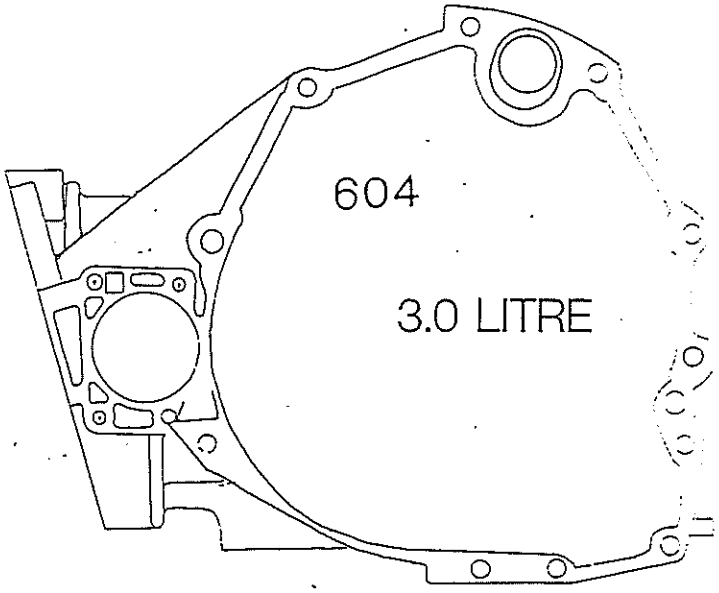
EXPLANATION:

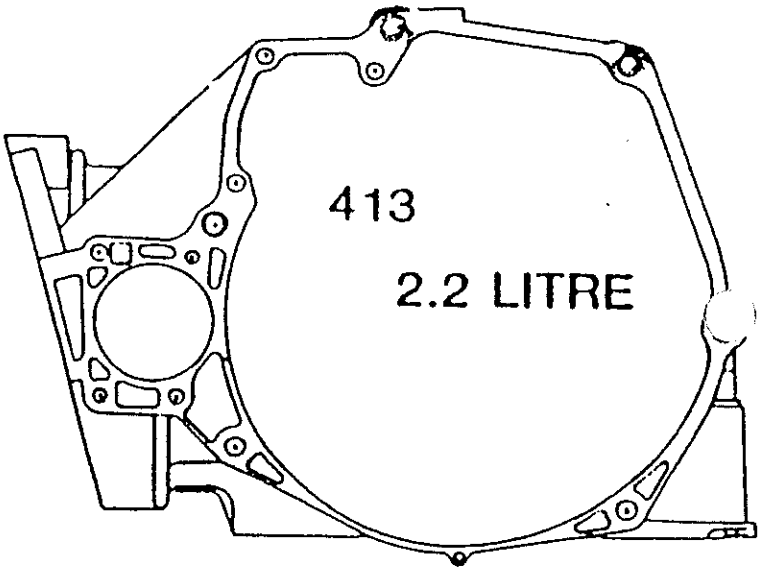
The first character designates number of speeds.
The second character designates relative torque capacity (O=Base Light).
The third character designates Rear, Transverse, Longitudenal or All wheel drive.
The fourth character designates Electronic or Hydraulic Controls.

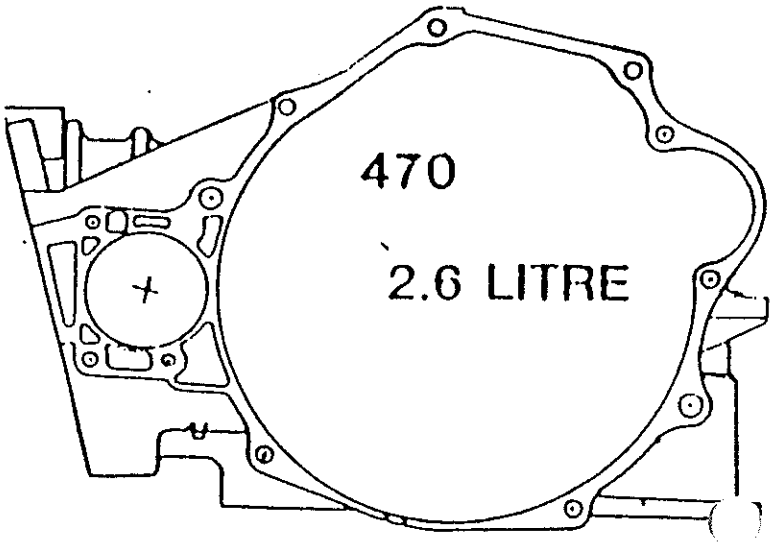
* These are new transmissions scheduled for release in 1992.











CHRYSLER MOTORS

SERVICE & PARTS OPERATIONS

TRANSAXLE

Technical Bulletin #561

- Transmission: 42LE
- Subject: Pressure taps locations & specifications
- Application: Chrysler

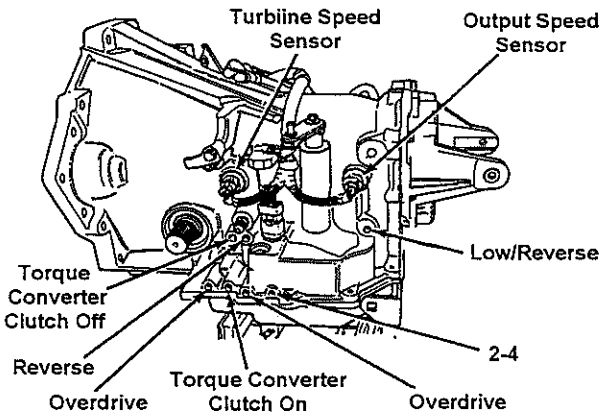
August 2000

42LE

Pressure Tap Locations and Specifications

Use the following information to verify pressures.

Tap Locations



Pressure Specifications (PSI)

Gear Selector Position	Actual Gear	Pressure Taps					
		Under-Drive Clutch	Over-Drive Clutch	Reverse Clutch	Torque Converter Clutch Off	2/4 Clutch	Low/ Reverse Clutch*
Park * 0 mph	Park	0-2	0-5	0-2	60-110	0-2	115-145
Reverse * 0 mph	Reverse	0-2	0-7	165-235	50-100	0-2	165-235
Neutral * 0 mph	Neutral	0-2	0-5	0-2	60-110	0-2	115-145
L # 20 mph	First	110-145	0-5	0-2	60-110	0-2	115-145
3 # 30 mph	Second	110-145	0-5	0-2	60-110	115-145	0-2
3 # 45 mph	Direct	75-95	75-95	0-2	60-90	0-2	0-2
OD # 30 mph	Overdrive	0-2	75-95	0-2	60-90	75-95	0-2
OD # 50 mph	Overdrive with TCC	0-2	75-95	0-2	0-5	75-95	0-2

* Engine speed at 1500 rpm.

Caution ***both*** front wheels must be turning at the same speed.

TRNi

Transmission ID

ACURA, ALPHA ROMEO, AMERICAN MOTORS/AMC
TRANSMISSION IDENTIFICATION PAGE

AUTOMOBILE	YEARS	MAKE & MODEL	RWD/ FWD	NO.OF SPEEDS	TRANSMISSION TYPE
ACURA	90-on	Integra	FWD	4	Honda RC/MPRA
	86-89		FWD	4	Honda CA/P1
	91-on	Legend	FWD	4	Honda MPYA
	86-90		FWD	4	Honda G4/L5
	91-on	NSX	FWD	4	Honda MR9A
	92-on	Vigor	FWD	4	Honda MPWA
ALPHA ROMEO	90-on	All Models	FWD	4	ZF4-HP16
	76-89	All Models	RWD	4	ZF4-HP22
	76-on	All Models	RWD	3	ZF3-HP22
AMERICAN MOTORS	72-78	All w/V-8 exc.304	RWD	3	A727
	72-87	4 & 6 Cyl & 304 V-8	RWD	3	A904
	62-71	All Models	RWD	3	BW 35

TRNi

Transmission ID

AUDI, BMW
TRANSMISSION IDENTIFICATION PAGE

AUTOMOBILE	YEARS	MAKE & MODEL	RWD/ FWD	NO.OF SPEEDS	TRANSMISSION TYPE
AUDI	90-on	V-8 Quattro	AWD	4	ZF4-HP24
	89-on	All Models exc. V-8	FWD	4	VW097
	75-92	All Models	FWD	3	VW087,089
	70-75	All Models	FWD	3	VW003
BMW	93-on	All 740i & 740il	RWD	5	ZF5-HP30
	91-on	All w/ 16-bolt pan	RWD	4	4L30-E
	84-on	All w/ 6-bolt pan	RWD	4	ZF4-HP22/24
	76-84	All w/ 4-bolt pan	RWD	3	ZF3-HP22
	72-75	All w/ 12-bolt pan	RWD	3	BW65
	67-75	All w/ 20-bolt pan	RWD	3	ZF3-HP12/20

TRNi

Transmission ID

BUICK
TRANSMISSION IDENTIFICATION PAGE

AUTOMOBILE	YEARS	MAKE & MODEL	RWD/ FWD	NO.OF SPEEDS	TRANSMISSION TYPE
BUICK	73-75	Apollo, Centurion	RWD	3	TH250,350.
	85-on	Century	FWD	4	440T4
	82-on		FWD	3	TH125C/3T40
	76-81	(w/ 11-bolt pan)	RWD	3	TH200
	73-81	(w/ 13-bolt pan)	RWD	3	TH250,350.
	91-on	Electra, Park Avenue	FWD	4	4T60E
	85-90		FWD	4	440T4
	81-84		RWD	4	TH200-4R
	76-82	(w/ 11-bolt pan)	RWD	3	TH200
	69-82	(w/13-bolt pan exc.TH400)	RWD	3	TH250,350.
	64-82	(w/big block V8)	RWD	3	TH400
	81-90	Estate Wagon	RWD	4	TH200-4R
	76-82	(w/ 11-bolt pan)	RWD	3	TH200
	71-82	(w/13-bolt pan exc.TH400)	RWD	3	TH250,350.
	71-82	(w/big block V8)	RWD	3	TH400
	92-on	LeSabre	FWD	4	4T60E
	86-91		FWD	4	440T4
	81-85		RWD	4	TH200-4R
	76-85	(w/ 11-bolt pan)	RWD	3	TH200
	69-85	(w/13-bolt pan exc.TH400)	RWD	3	TH250,350.
	64-85	(w/big block V8)	RWD	3	TH400
	88-91	Reatta	FWD	4	440T4
	88-on	Regal	FWD	4	440T4
	81-87		RWD	4	TH200-4R
	76-87	(w/ 11-bolt pan)	RWD	3	TH200
	73-87	(w/13-bolt pan exc.TH400)	RWD	3	TH250,350.
	73-87	(w/big block V8)	RWD	3	TH400
	91-on	Riviera	FWD	4	4T60E
	86-90		FWD	4	440T4
	82-85		FWD	4	TH325-4L
	79-81		FWD	3	TH325
	76-78	(w/ 11-bolt pan)	RWD	3	TH200
	69-78	(w/13-bolt pan exc.TH400)	RWD	3	TH250,350.
	65-78	(w/big block V8)	RWD	3.	TH400
	92-on	Roadmaster	RWD	4	700R4/4L60
	82-89	Skyhawk	FWD	3	TH125C/3T40
	80-on	Skylark, Somerset	FWD	3	TH125C/3T40
	76-79	(w/ 11-bolt pan)	RWD	3	TH200
	69-79	(w/13-bolt pan exc.TH400)	RWD	3	TH250,350.
	65-79	(w/big block V8)	RWD	3	TH400

TRNi

Time Zone Map
Asia

CADILLAC
TRANSMISSION IDENTIFICATION PAGE

AUTOMOBILE	YEARS	MAKE & MODEL	RWD/ FWD	NO.OF SPEEDS	TRANSMISSION TYPE
CADILLAC	93-on	Allante	FWD	4	4T80E
	87-92		FWD	4	440T4,4T60E
	82-88	Cimarron	FWD	3	TH125C/3T40
	91-on	DeVille	FWD	4	4T60E
	85-90		FWD	4	440T4
	81-84		RWD	4	TH200-4R
	76-81	(w/ 11-bolt pan)	RWD	3	TH200
	69-81	(w/13-bolt pan exc.TH400)	RWD	3	TH250,350.
	64-81	(w/big block V8)	RWD	3	TH400
	93-on	Eldorado (w/4.6 litre)	FWD	4	4T80E
	91-on	(exc. 4.6L)	FWD	4	4T60E
	86-90		FWD	4	440T4,4T60
	82-85		FWD	4	TH325-4L
	79-81		FWD	3	TH325
	67-78		FWD	3	TH425
	93-on	Fleetwood, Brougham	RWD	4	4L60E
	91-92		FWD	4	4T60E
	85-90		FWD	4	440T4
	81-90		RWD	4	TH200-4R
	64-84		RWD	3	TH400
	93-on	Seville (w/ 4.6 litre)	FWD	4	4T80E
	91-on	(exc. 4.6L)	FWD	4	4T60E
	86-90		FWD	4	440T4,4T60
	82-85		FWD	4	TH325-4L
	79-81		FWD	3	TH325
	75-78		RWD	3	TH400
	93-on	Sixty Special	FWD	4	4T60E

TRNi

Transmission ID

GEO, HONDA
TRANSMISSION IDENTIFICATION PAGE

AUTOMOBILE	YEARS	MAKE & MODEL	RWD/ FWD	NO.OF SPEEDS	TRANSMISSION TYPE
GEO	89-on	Metro	FWD	3	MX17/A210
	89-on	Prizm	FWD	4	MS7/A240E/A245E
	89-on		FWD	3	MX1/A131L
	1989	Spectrum	FWD	3	KF100/F3A
	90-on	Storm	FWD	4	JF403E
	90-on		FWD	3	KF400/F3A
	89-on	Tracker	RWD	3	TH180C/3L30
HONDA	90-on	Accord	FWD	4	PX4B/APX4
	86-89		FWD	4	F4
	84-85		FWD	4	AS
	1983		FWD	4	AK4
	92-on	Civic, CRX, Del Sol	FWD	4	M24A
	88-91		FWD	4	L4/ML4A
	86-87		FWD	4	CA
	89-91		AWD	4	S5/MPSA
	92-on	Prelude	FWD	4	MP1A
	90-91		FWD	4	MY8A
	85-89	(fuel injected)	FWD	4	F4/K4
	83-87	(carburated)	FWD	4	AK5/AS
	80-85	All Models	FWD	3	Hondamatic
	73-79	All Models	FWD	2	Hondamatic
	80-on	w/ 14-bolt pan	RWD	4	AOD/F10D
	68-91		RWD	3	C4 & C6
	85-90	Bronco II	RWD	4	A4LD
	83-84		RWD	3	C5
	72-82	Courier	RWD	3	3N71B
	89-on	"E" Vans w/20-bolt pan	RWD	4	E4OD
	80-on	w/14-bolt pan	RWD	4	AOD/F10D
	68-on		RWD	3	C4 & C6
	91-on	Explorer	4WD	4	A4LD
	89-on	Pickups w/20-bolt pan	RWD	4	E4OD
	80-on	w/14-bolt pan	RWD	4	AOD/F10D
	68-on		RWD	3	C4 & C6
	68-79	Ranchero	RWD	3	C4 & C6
	85-on	Ranger	RWD	4	A4LD
	84-85		RWD	3	C3

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Transmission ID

FORD: CARS, TRUCKS, AND VANS
TRANSMISSION IDENTIFICATION PAGE

AUTOMOBILE	YEARS	MAKE & MODEL	RWD/ FWD	NO.OF SPEEDS	TRANSMISSION TYPE
FORD (CARS)	93-on	Crown Victoria	RWD	4	AOD-E
	82-92		RWD	4	AOD/E10D
	69-74	Custom, Custom500	RWD	3	C4 & C6
	91-on	Escort, EXP	FWD	4	4EAT-F/F4A-EL
	81-90		FWD	3	ATX
	63-80	European Imports	RWD	3	BW35
	78-83	Fairmont	RWD	3	C4 & C6
	88-on	Festiva	FWD	3	FSA
	69-74	Galaxie, Galaxie500	RWD	3	C4 & C6
	77-80	Granada w/250 Engine	RWD	3	SNT1B
	74-82	Granada exc.250 Eng.	RWD	3	C3 & C4
	80-86	LTD	RWD	4	AOD/E10D
	69-86		RWD	3	C4 & C6
	70-77	Maverick	RWD	3	C3 & C4
	87-on	Mustang w/4 Cyl	RWD	4	A4LD
	80-on	Mustang exc.4 Cyl	RWD	4	AOD/E10D
	64-86		RWD	3	FMX, C3 & C4
	71-80	Pinto	RWD	3	C3 & C4
	88-on	Probe	FWD	4	4EAT-G/G4A-EL
	91-on	Taurus	FWD	4	AXOD-E
	86-90		FWD	4	AXOD
	86-91		FWD	3	ATX
	84-on	Tempo	FWD	3	ATX
	87-88	Thunderbird w/2.3Litre	RWD	4	A4LD
	80-on	exc.87-88 w/2.3L	RWD	4	AOD/E10D
	56-87		RWD	3	FMX, C4 & C6
	69-76	Torino	RWD	3	C4 & C6

AUTOMOBILE	YEARS	MAKE & MODEL	RWD/ FWD	NO.OF SPEEDS	TRANSMISSION TYPE
FORD TRUCKS & VANS	86-on	Aerostar	RWD	4	A4LD
	80-on	Bronco w/ 20-bolt pan	RWD	4	E4OD

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Transmission ID

CHRYSLER, DODGE, PLYMOUTH
TRANSMISSION IDENTIFICATION PAGE

AUTOMOBILE	YEARS	MAKE & MODEL	RWD/ FWD	NO.OF SPEEDS	TRANSMISSION TYPE
CHRYSLER	**Arrow-See Colt RWD**				
	Champ-See Colt FWD				
	78-86	Challenger, Saporro	RWD	3	A904
	93-on	Colt exc. Vista	FWD	4	F4A22
	89-on		FWD	3	KM171-5/F3A21
	79-88		FWD	3	KM170/KM170-1
	92-on	Colt Vista	AWD	4	W4A32-1
	92-on		FWD	4	F4A22
	89-91		FWD	3	KM172-5/F3A22
	84-88	Conquest	RWD	4	JM600/4N71B
	89-on	Caravan, Voyager	FWD	4	41TE/A604
	84-on		FWD	3	31TH/A413/A670
	93-on	Intrepid, Concord	FWD	4	42LE/A606
	63-75	European Imports	RWD	3	BW35
	92-on	2000 GTX	AWD	4	W4A32-1
	89-on		FWD	4	KM175-5/F4A22
	92-on	Laser	AWD	4	W4A32-1
	91-on	w/Turbo	FWD	4	F4A33-1
	90-on	w/o Turbo	FWD	4	F4A22/KM175
	89-on	LeBaron, Shadow	FWD	4	41TE/A604
	78-on		FWD	3	31TH/A413/A670
	90-on	Monaco	FWD	4	ZF-4-HP18FL
	90-on	Ram50, Raider	4WD	4	A500/42RH/RE
	87-89		4WD	4	KM148/A44D
	91-on	Stealth	AWD	4	W4A32-1
	91-on		FWD	4	F4A33-1
	600-See LeBaron				
	Sundance-See LeBaron				
	88-on	Domestic Trucks exc.V-8	RWD	4	A500/42RH/RE
	90-on	Domestic Trucks w/V-8	RWD	4	A518/46RH/RE
	88-on	Domestic Vans exc.5.9L	RWD	4	A500/42RH/RE & A51
	90-on	Domestic Vans w/5.9L	RWD	4	A518/46RH/RE
	62-on	Most Models w/V-8	RWD	3	A727/36RH
	60-on	Most Models w/6 Cyl	RWD	3	A904

CHEVROLET, GMC TRUCKS & VANS	93-on	Astro, Safari	RWD	4	4L60E
	85-92		RWD	4	700R4, 4L60E
	Blazer-See Pickup				
	82-87	ElCamino, Caballero	RWD	4	TH200-4R
	76-87	(w/ 11-bolt pan)	RWD	3	TH200
	69-87	(w/13-bolt pan exc.TH400)	RWD	3	TH250, 350.
	69-87	(w/big block V8)	RWD	3	TH400
	76-81	Luv	RWD	3	TH200
	91-on	Motor Homes	RWD	4	4L80E
	73-90		RWD	3	TH400HD
	73-78		FWD	3	TH425
	91-on	Pickup (w/ 17-bolt pan)	RWD	4	4L80E
	82-on	(w/ 16-bolt pan)	RWD	4	700R4, 4L60E
	76-on	(w/ 11-bolt pan)	RWD	3	TH200
	69-90	(w/13-bolt pan exc.TH400)	RWD	3	TH250, 350.
	62-90	(w/big block V8)	RWD	3	TH400
	91-on	Vans (w/ 17-bolt pan)	RWD	4	4L80E
		(w/ 16-bolt pan)	RWD	4	700R4, 4L60E
	76-on	(w/ 11-bolt pan)	RWD	3	TH200
	69-90	(w/13-bolt pan exc.TH400)	RWD	3	TH250, 350.
	62-90	(w/big block V8)	RWD	3	TH400

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Transmission ID

LINCOLN, MASERATI
TRANSMISSION IDENTIFICATION PAGE

AUTOMOBILE	YEARS	MAKE & MODEL	RWD/ FWD	NO.OF SPEEDS	TRANSMISSION TYPE
LINCOLN	91-on	Continental	FWD	4	AXOD-E
	88-90		FWD	4	AXOD
	80-87		RWD	4	AOD/F10D
	66-79		RWD	3	C6
	80-91	Mark III,IV,V,VI,& VII Gas	RWD	4	AOD/F10D
	66-79		RWD	3	C6
	84-86	Mark VII Diesel	RWD	4	ZF4-HP22
	92-on	Mark VII	RWD	4	AOD-E/4R70W
	92-on	Town Car	RWD	4	AOD-E
	81-91		RWD	4	AOD
	77-80	Versailles	RWD	3	C4
MASERATI	88-on	All Models	RWD	4	ZF4-HP22
	82-87		RWD	3	A727

TRNi

Transmission ID

MAZDA
TRANSMISSION IDENTIFICATION PAGE

AUTOMOBILE	YEARS	MAKE & MODEL	RWD/ FWD	NO.OF SPEEDS	TRANSMISSION TYPE
MAZDA	90-on	323	FWD	4	F4A-EL
	88-89		FWD	4	G4A-HL
	81-87		FWD	3	F3A
	83-86		FWD	3	F3A
	79-82		RWD	3	3N71B
	92-on	929	RWD	4	R4A-EL
	88-91		RWD	4	N4A-EL
	87-on	B2200	RWD	4	N4A-HL
	90-on	B2600	4WD	4	RE4-RC1A
	87-88		4WD	4	3N71B
	87-on		2WD	4	R4A-EL
	89-on	MPV (w/ 6 cyl)	4WD	4	R4AX-EL
	89-on		2WD	4	R4A-EL
	89-on	MPV (w/ 4 cyl)	RWD	4	N4A-HL
	92-on	MX-3	FWD	4	F4A-EL
	91-on	MX-5 Miata	RWD	4	N4A-HL
	MX-6 See 626				
	91-on	Navajo	RWD	4	A4LD
	93-on	RX-7	RWD	4	R4A-EL
	89-92		RWD	4	N4A-EL
	84-88		RWD	4	4N71B
	88-on	Titan Truck	RWD	4	RG4-R01A
	81-87	All Models	FWD	3	F3A
	71-88	All (exc w/15-bolt pan)	RWD	3	3N71B
	67-71	All (w/15-bolt pan)	RWD	3	BW35

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Transmission ID

ISUZA, JAGUAR
TRANSMISSION IDENTIFICATION PAGE

AUTOMOBILE	YEARS	MAKE & MODEL	RWD/ FWD	NO.OF SPEEDS	TRANSMISSION TYPE
ISUZU	92-on	Amigo	RWD	4	A45DL
	85-90	I-Mark	FWD	3	F3A
	81-85		RWD	3	A40
	90-93	Impulse	FWD	4	JF403E
	88-89		RWD	4	A45DL
	86-87	(w/turbo)	RWD	4	A45DL
	83-87	(w/o turbo)	RWD	4	A42D
	88-on	NPR Truck	RWD	4	RG4-R01A
	88-on	Pickup	RWD	4	A45DL
	83-87		RWD	3	A40
	81-82		RWD	3	TH-200
	91-on	Rodeo	4WD	4	4L30E
	91-93	Stylus	FWD	3	F3A
	81-on	Trooper (w/3.2 Litre)	4WD	4	4L30E
	88-91	(w/2.6 & 2.8L)	4WD	4	A340H
	65-75	All Models	RWD	3	BW-35

AUTOMOBILE	YEARS	MAKE & MODEL	RWD/ FWD	NO.OF SPEEDS	TRANSMISSION TYPE
JAGUAR	88-on	XJ6 (w/4.0 Litre)	RWD	4	ZF4-HP24
	88-89	(exc.4.0 L)	RWD	4	ZF4-HP22
	73-87		RWD	3	BW65/66
	93-on	XJS & XJS-R	RWD	4	4L80E
	78-92	XJS & XJ12	RWD	3	TH400
	64-77	All E,XJS & XJ12	RWD	3	BW8/12
	63-72	All w/2.4,2.8,3.4,& 3.8 Litre	RWD	3	BW35

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Transmission ID

JEEP, LEXUS
TRANSMISSION IDENTIFICATION PAGE

AUTOMOBILE	YEARS	MAKE & MODEL	RWD/ FWD	NO.OF SPEEDS	TRANSMISSION TYPE
JEEP	93-on	All (w/ V-8)	RWD	4	A500/42RH/RE & A5
	80-91	All (w/hvy duty 3spd)	RWD	3	A727/36RH
	87-on	All (exc.V-8)	RWD	4	AW4/A340F
	80-on	All (w/light duty 3spd)	RWD	3	A904
LEXUS	90-on	ES250	FWD	4	A540E
	92-on	ES300	FWD	4	A540E
	93-on	GS300	RWD	4	A340E
	90-on	LS400	RWD	4	A341E
	92-on	SC300	RWD	4	A340E
	92-on	SC400	RWD	4	A341E

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Transmission ID

HYUNDAI, INFINITY, INTERNATIONAL
TRANSMISSION IDENTIFICATION PAGE

AUTOMOBILE	YEARS	MAKE & MODEL	RWD/ FWD	NO.OF SPEEDS	TRANSMISSION TYPE
HYUNDAI	92-on	Elantra	FWD	4	KM176-5/F4A21
	90-on	Excel	FWD	4	KM176-5/F4A21
	1989		FWD	3	KM171-5/F3A21
	87-88		FWD	3	KM171-1
	1986		FWD	3	KM170-2
	78-85	Pony	RWD	3	A40
	91-on	Scoupe	FWD	4	F4A21-2
	90-on	Sonata (w/ V-6)	FWD	4	KM177-8/F4A23
	90-on	(w/ 4Cyl)	FWD	4	KM175-5/F4A22
	1989		FWD	4	KM175-2
INFINITY	91-on	G20	RWD	4	RE4-R01A
	92-on	J30	RWD	4	RE4-R01A
	90-92	M30	RWD	4	RE4-R01A
	90-on	Q45	RWD	4	RE4-R03A
INTERNATIONAL	69-80	All W/8 Cyl	RWD	3	A727

TRNi

Transmission ID

DAIHATSU, EAGLE, FERRARI, FIAT
TRANSMISSION IDENTIFICATION PAGE

AUTOMOBILE	YEARS	MAKE & MODEL	RWD/ FWD	NO.OF SPEEDS	TRANSMISSION TYPE
DAIHATSU	90-92	Charade	FWD	3	ECC/A210
EAGLE	88-89	Medallion	FWD	3	Renault MJ3
	88-89	Premier (w/4Cyl)	FWD	3	Renault AR-4
	88-91	(w/6Cyl)	FWD	4	2F4HP-22FL
	89-on	Summit exc. Wagon	FWD	4	KM176/F4A21
	89-on		FWD	3	KM171/F3A21
	92-on	Summit Wagon	AWD	4	W4A32-1
	92-on		FWD	4	F4A22-2
	92-on	Talon	AWD	4	W4A32-1
	91-on	(w/ Turbo)	FWD	4	F4A33-1
	90-on	(w/o Turbo)	FWD	4	F4A22/KM175
	93-on	Vision	FWD	4	4ZLE/A606
FERRARI	77-80	All GT400	FWD	3	4ZLE/A606
FIAT	79-82	All Strada	FWD	3	VW010
	69-82	All 124, 131, Brava, & Spider 2000	RWD	3	Trimatic
	72-74	All w/ Trans prefix# 1003000018	RWD	3	BW12
	66-71	All w/ Trans Prefix# AS1,AS3,AS5,& 35EH	RWD	3	BW35

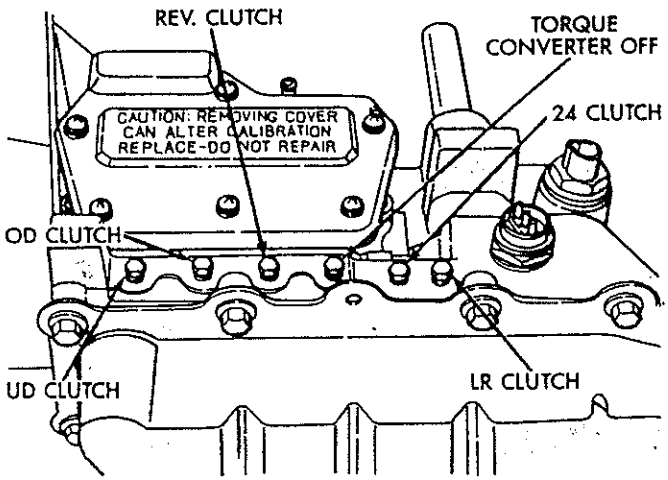

Fig. 1—Pressure Taps

Test One (Selector in L—1st gear)

(1) Attach pressure gauge to the low/reverse clutch tap.

(2) Move selector lever to the L position.

(3) Allow vehicle wheels to turn and increase throttle opening to achieve an indicated vehicle speed to 20 mph.

(4) Low/reverse clutch pressure should read 115 to 145 psi.

(5) This test checks pump output, pressure regulation and condition of the low/reverse clutch hydraulic circuit and shift schedule.

Test Two (Selector in D—2nd gear)

(1) Attach gauge to the underdrive clutch tap.

(2) Move selector lever to the D position.

(3) Allow vehicle wheels to turn and increase throttle opening to achieve an indicated vehicle speed of 30 mph.

(4) Underdrive clutch pressure should read 110 to 145 psi.

(5) This test checks the underdrive clutch hydraulic circuit as well as the shift schedule.

Test Three (overdrive clutch check)

(1) Attach gauge to the overdrive clutch tap.

(2) Move selector lever to the circle D position.

(3) Allow vehicle wheels to turn and increase throttle opening to achieve an indicated vehicle speed of 20 mph.

(4) Overdrive clutch pressure should read 74 to 95 psi.

(5) Move selector lever to the D position and increase indicated vehicle speed to 30 mph.

(6) The vehicle should be in second gear and verdrive clutch pressure should be less than 5 psi.

(7) This test checks the overdrive clutch hydraulic circuit as well as the shift schedule.

Test Four (Selector in Circle D—overdrive gear)

(1) Attach gauge to the 2/4 clutch tap.

(2) Move selector lever to the circle D position.

(3) Allow vehicle front wheels to turn and increase throttle opening to achieve an indicated vehicle speed of 30 mph.

(4) The 2/4 clutch pressure should read 75 to 95 psi.

(5) This test checks the 2/4 clutch hydraulic circuit.

Test Five (Selector in circle D—overdrive lockup)

(1) Attach gauge to the lockup off pressure tap.

(2) Move selector lever to the circle D position.

(3) Allow vehicle wheels to turn and increase throttle opening to achieve an indicated vehicle speed to 50 mph.

Caution: Both wheels must turn at the same speed.

(4) Lockup off pressure should be less than 5 psi.

(5) This test checks the lockup clutch hydraulic circuit.

Test Six (Selector in Reverse)

(1) Attach gauge to the reverse clutch tap.

(2) Move selector lever to the reverse position.

(3) Read reverse clutch pressure with output stationary (foot on brake) and throttle opened to achieve 1500 rpm.

(4) Reverse clutch pressure should read 165 to 235 psi.

(5) This test checks the reverse clutch hydraulic circuit.

Test Result Indications

(1) If proper line pressure is found in any one test, the pump and pressure regulator are working properly.

(2) Low pressure in all positions indicates a defective pump, a clogged filter, or a stuck pressure regulator valve.

(3) Clutch circuit leaks are indicated if pressures do not fall within the specified pressure range.

(4) If the overdrive clutch pressure is greater than 5 psi in step 6 of Test Three, a worn reaction shaft seal ring is indicated.