

Checker Motors Corporation

KALAMAZOO, MICHIGAN

**TUNE-UP
SPECIFICATIONS
FOR 1969 & 1970
MODELS**

**EXHAUST EMISSION
CONTROL FOR
1970 MODELS**

AFTER CHASSIS 90000 ON A11 & A12 MODELS

CONTROLLED COMBUSTION SYSTEM (C.C.S.) (Automatic Transmission--All Models)

The Controlled Combustion System is designed to reduce air pollution from exhaust emissions by improving combustion efficiency on Checkers equipped with automatic transmission. It is entirely separate from the Positive Crankcase Ventilating system. This is done by providing heated air to the carburetor which permits running on leaner mixtures for improved combustion. Other engine modifications consist of a special calibrated carburetor and distributor and related components. Complete effectiveness of the system as well as full power and performance, depends upon idle speed, ignition timing and idle fuel mixture being set according to spec-

ification. A quality tune-up which includes these adjustments should be performed periodically to assure normal engine efficiency, operation and performance.

See information on Transmission Controlled Spark on this page of the bulletin.

See tune-up specifications on page two of this bulletin.

If car is being operated in California, see page two.

TRANSMISSION CONTROLLED SPARK (See Illustration)

The distributor vacuum advance has been eliminated in the low forward gears in this system. The control of the vacuum advance is accomplished by means of a solenoid vacuum switch which is energized in the low gears by grounding a switch at the transmission (Fig. 1). When the solenoid is energized, the vacuum source to the distributor is shut off and the vacuum advance unit is vented to the atmosphere by means of a clean air connection to the carburetor air hose. This prevents the vacuum advance unit from becoming vacuum locked at some advance position.

The T.C.S. System also incorporates a temperature override system which provides full vacuum in all gears when the engine is cold for improved drivability. A thermostatic water temperature switch provides the signal which energizes a normally closed relay, opening the circuit to the solenoid vacuum switch, thus providing full vacuum. This engine has a hot override switch which provides full vacuum to improve engine cooling.

The system may be checked for proper function by connecting a vacuum gauge in the hose between the solenoid and the

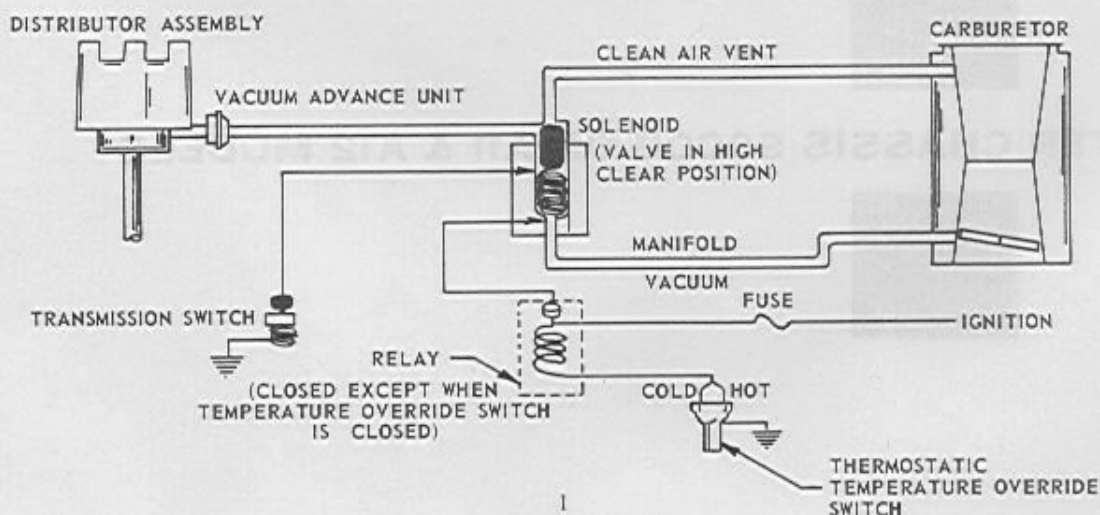
distributor. Full vacuum should be obtained when the transmission is in the 3rd gear only.

If full vacuum is found in all gears, the cause may be:

1. Fuse blown
2. Wire disconnected at solenoid
3. Wire disconnected at transmission switch
4. Transmission switch failed
5. Temperature override switch energized - check by disconnecting electrical lead
6. Solenoid failed

If no vacuum is found in high gear, the cause may be:

1. Clean air line and distributor vacuum line reversed at solenoid
2. Foreign material in solenoid
3. Plunger return spring is broken
4. Distributor or manifold vacuum hose broken or disconnected
5. Transmission switch or wire shorted to ground



**ENGINE IS EQUIPPED TO REDUCE
EXHAUST EMISSIONS
ENGINE 250 CID - 6 CYL. 155 H.P.
AUTOMATIC TRANSMISSION (IN DRIVE)
600 RPM & 4° BTC**

The Following Adjustments are Necessary to Maintain System Effectiveness.

(With engine at operating temperature, choke open, air cleaner installed, air conditioning off, parking brake on.)

1. Turn mixture screw in until lightly contacting seat, then turn back out four (4) full turns.
2. Disconnect and plug distributor line, start engine, set

ignition timing (with rpm as specified).

3. Readjust solenoid screw to 630 rpm (auto. in drive).
4. Adjust mixture screw in to achieve specified idle speed (below), reconnect vacuum line.

IDLE SPECIFICATIONS (See Service Manual for Additional Tune-Up Instructions).

After above adjustments - disconnect solenoid electrically - set Carburetor speed screw at 400 RPM - reconnect.

TUNE-UP SPECIFICATIONS

**ENGINE IS EQUIPPED TO REDUCE
EXHAUST EMISSIONS
8 CYL. HP V8
ENGINE 350 CID - 2 BBL
AUTOMATIC TRANSMISSION (IN DRIVE)
600 RPM & 4° BBL**

The Following Adjustments are Necessary to Maintain System Effectiveness.

(With engine at operating temperature, choke open, air cleaner installed, air conditioning off, parking brake on),

1. Turn mixture screws in until lightly contacting seats, then turn screws back out four (4) full turns.
2. Disconnect and plug distributor vacuum line, start engine, set ignition timing (with rpm as specified).

3. Readjust carburetor speed screw (or solenoid screw) to 630 rpm in drive.

4. Adjust mixture screws equally in to achieve specified idle speed (below), reconnect vacuum line.

IDLE SPECIFICATIONS (See Service Manual for Additional Tune-Up Instructions).

After above adjustments - disconnect solenoid electrically - if equipped - set Carburetor speed screw at 450 RPM - reconnect.

CALIFORNIA CARS ONLY

**TO REDUCE FUEL VAPOR LOSSES, THIS
VEHICLE IS EQUIPPED WITH CHECKER
MOTORS EVAPORATION CONTROL SYSTEM**

(The Following Procedure is Necessary For Optimum Engine Performance)

1. Before Tuning Engine - Disconnect "Fuel Tank" Line From Vapor Canister.
2. After Tuning Engine - Reconnect "Fuel Tank" Line to Vapor Canister. Vapor Canister Maintenance - Every 12 Months

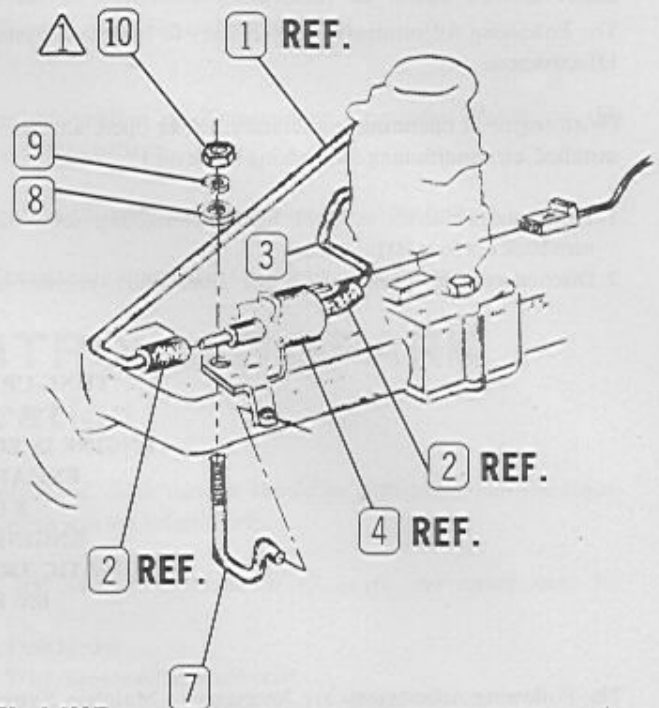
or 12,000 Miles; whichever Occurs First (More Often Under Dusty Conditions), Unsnap Funnel Cap (If so Equipped) From Underside of Canister and Discard Filter. Inspect Canister and Install New Filter (Reinstall Cap).

See Exhaust Emission Engine Tune-Up Specifications for Additional Information.

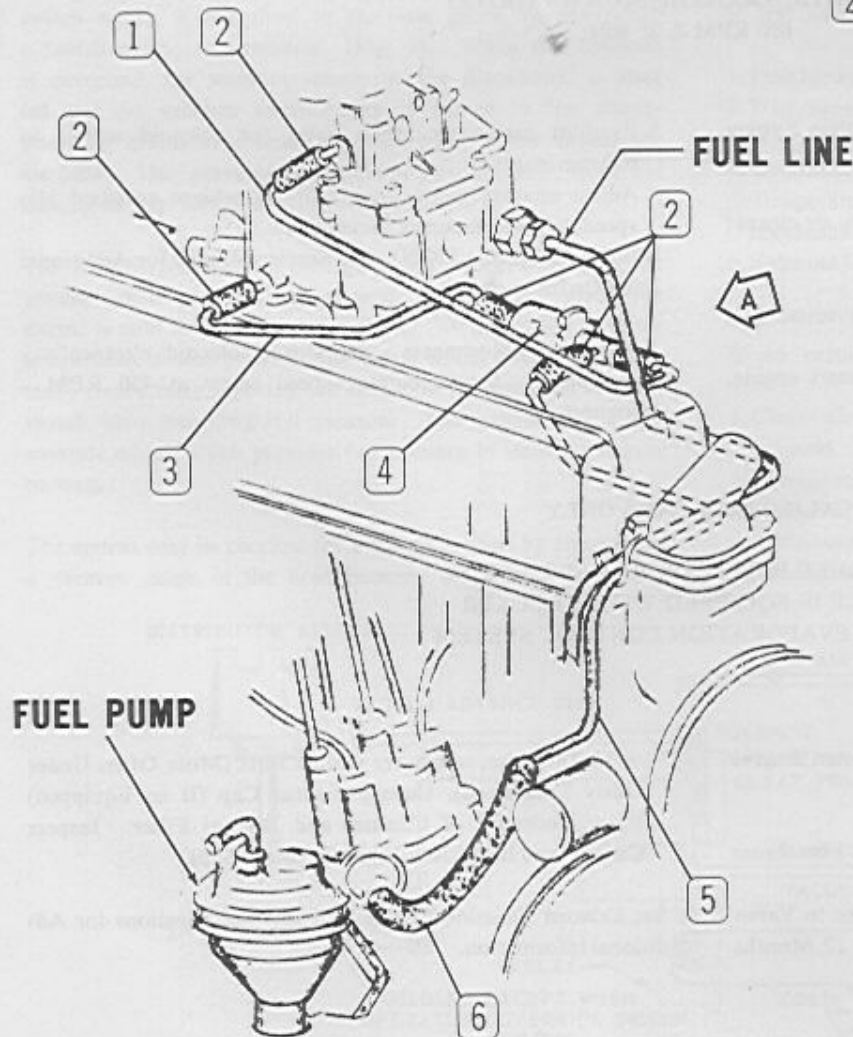
TRANSMISSION CONTROLLED SPARK 6 CYL.

MODEL: A-11 A-12 A-12W A-11E A-12E

1. 704648 TUBE-SPARK CONT. SOL. TO CARB.
2. 704651 HOSE-TUBE TO SOL., CARB & DIST. (5)
3. 704647 TUBE-SPARK CONT. REAR
4. 703542 VALVE ASSEM.-TRANS. CONT. SPARK.
5. 704649 TUBE-SPARK CONTROL FRT.
6. 702942 HOSE-DIST. TO SOL. TUBE
7. 704652 CLAMP
8. 120392 WASHER 9/32 I.D. x 5/8 O.D.
9. 120380 L.W. 1/4 MED. SPRING
10. 120375 NUT 1/4 x 20 HEX.



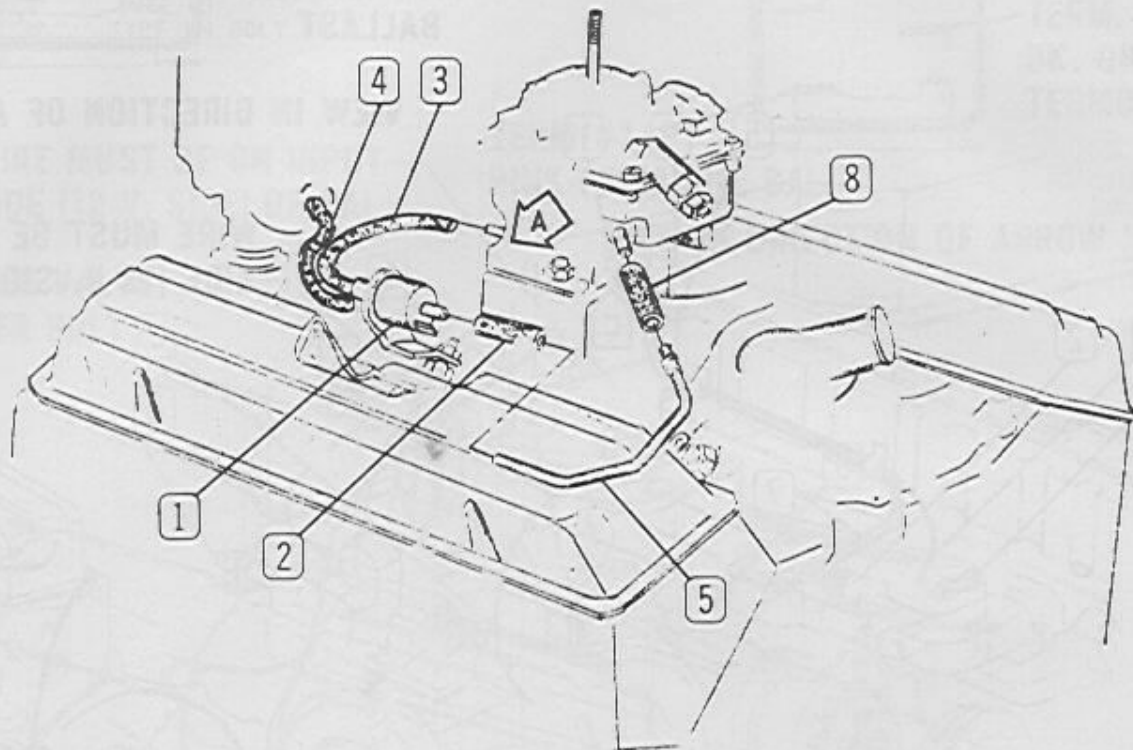
VIEW "A"



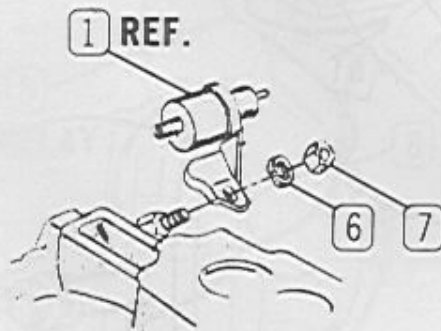
⚠ 3 - 4 LBS. FT. TORQUE

TRANSMISSION CONTROLLED SPARK-8 CYL.

MODEL: A-11 A-12 A-12W A-11E A-12E



VIEW "A"

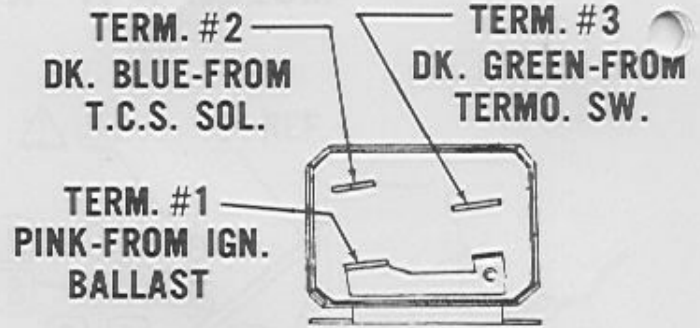


1. 703601 VALVE ASSEM.-T.C.S. SOLENOID
2. 704651 HOSE-T.C.S. TUBE (SHORT)
3. 704650 HOSE-T.C.S. VENT (SOL. TO CARB.)
4. 702942 HOSE
5. 704740 PIPE-SPARK CONT. V-8
6. 120214 L.W. 5/16 MED. SPRING
7. 120376 NUT 5/16-18 HEX.
8. 702941 HOSE-CARB. TO DIST.

TRANSMISSION CONT. SPARK-WIRING-6 CYL.

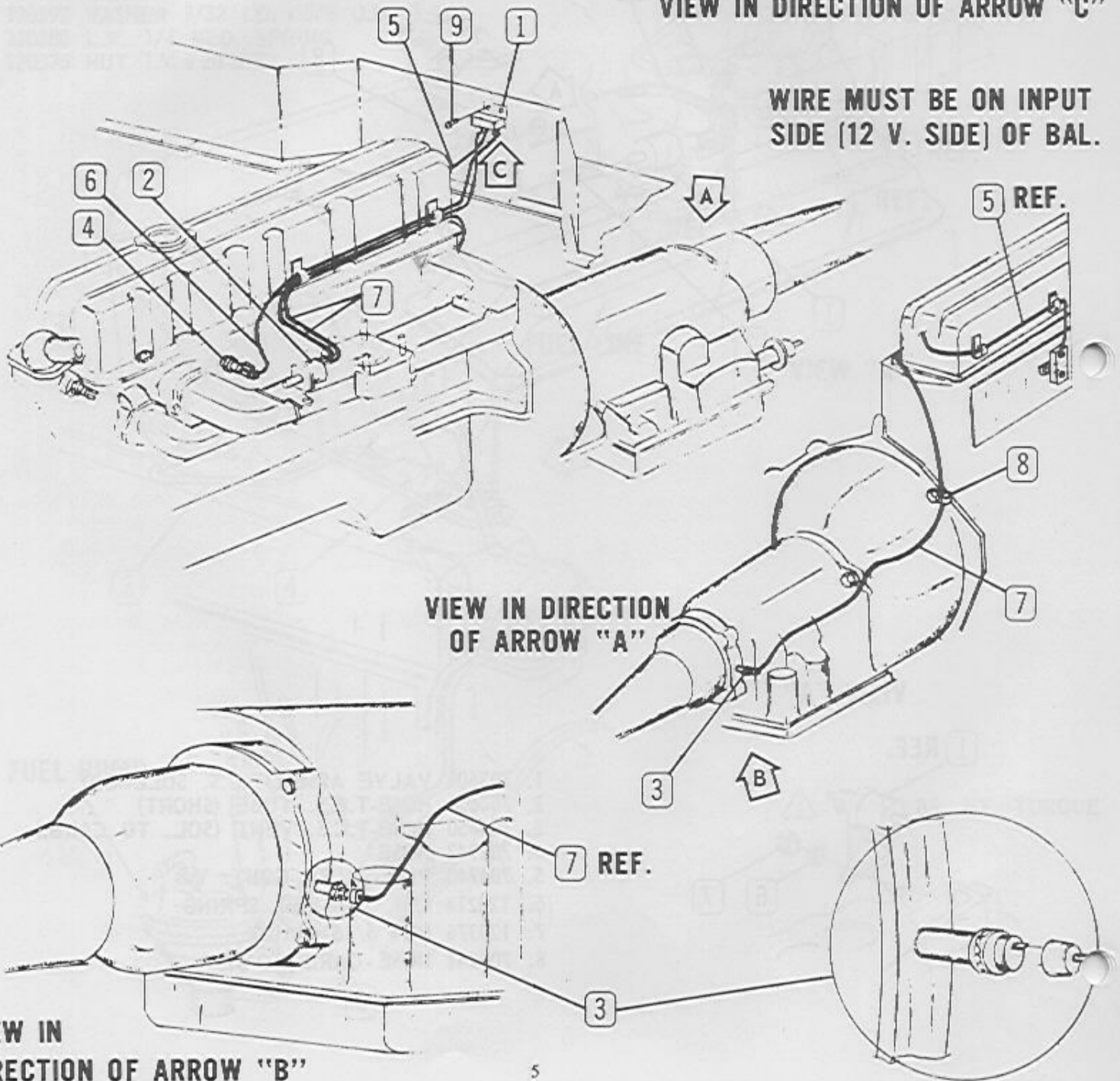
MODEL: A-11 A-12 A-11E A-12E A-12W

1. 703639 RELAY ASSEM.-T.C.S.
2. 703542 VALVE ASSEM.-T.C.S. SOL.-6 CYL.
3. 703702 SWITCH ASSEM.-T.C.S.
4. 703665 SWITCH ASSEM.-COLD & HOT
5. 703695 WIRE ASSEM.-RELAY TO IGN. BALLAST
6. 703696 WIRE ASSEM.-THERMO. SW.
7. 703697 HARNESS ASSEM. T.C.S. SOL. VALVE
8. 80352 CLIP-"J" TYPE
9. 9411537 SCREW #14-14 x 1/2 TYPE "A" TAPP (2)



VIEW IN DIRECTION OF ARROW "C"

WIRE MUST BE ON INPUT
SIDE (12 V. SIDE) OF BAL.



TRANSMISSION CONTROLLED SPARK-WIRING-8 CYL.

MODEL: A-11 A-12 A-11E A-12E A-12W

1. 703639 RELAY ASSEM.-TRANS. CONT. SPARK
2. 703601 VALVE ASSEM.-T.C.S. SOL.
3. 703702 SWITCH ASSEM.-T.C.S.
4. 703665 SWITCH ASSEM.-COLD & HOT
5. 703696 WIRE ASSEM.-THERMO. SW.
6. 703697 HARNESS ASSEM. T.C.S. SOL. VALVE
7. 703700 WIRE ASSEM.-RELAY TO IGN. BALLAST-8 CYL.
8. 80352 CLIP "J" TYPE (2)
9. 92869 CLIP-"J" TYPE 1/4 BOLT HOLE

TERM. #2
DK. BLUE-FROM T.C.S. SOL.

TERM. #3
DK. GREEN-FROM
TERMO. SW.

TERM. #1
PINK-FROM IGN. BAL.

VIEW IN DIRECTION OF ARROW "B"

WIRE MUST BE ON INPUT
SIDE (12 V. SIDE) OF BAL.

UNDER VALVE
COVER BOLT

