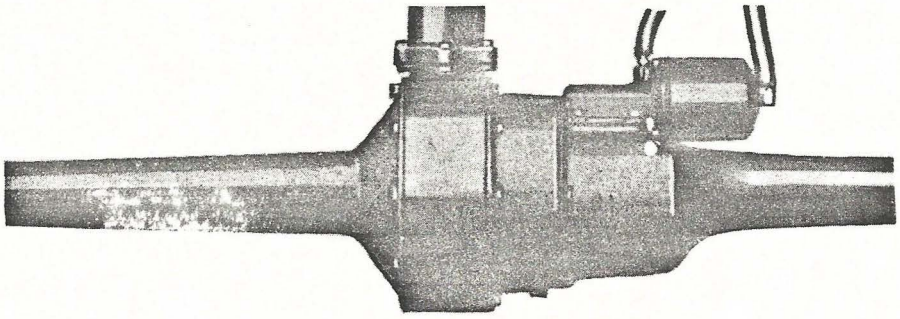
INSTALLATION INSTRUCTIONS

COLUMBIA OVERDRIVE AXLE
"FOR THE MOTORIST WHO GOES PLACES"

FORD V-8
MERCURY 8
1940



Manufactured by

THE COLUMBIA AXLE COMPANY

EAST 72nd STREET - CLEVELAND, OHIO

64668

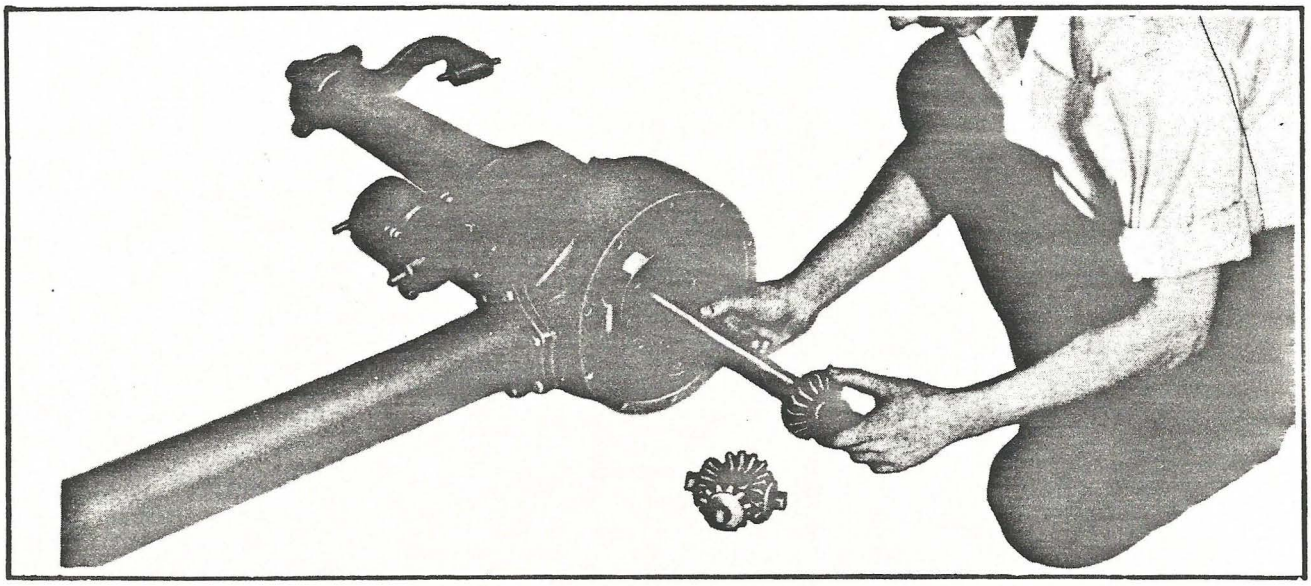


Illustration No. 2

ASSEMBLY OF OVERDRIVE UNIT TO CENTER MEMBER

(USE OVERDRIVE AXLE ASSEMBLY AS RECEIVED IN SHIPPING BOX)

Assemble Overdrive Axle Assembly to right side of Ford center member as shown in illustration Number 2, using nine original Ford cap screws, and one long cap screw with copper washer provided for front top side of housing. (This cap screw will be found wired into the hole in which it is to be used.) It is not necessary to disassemble Overdrive Axle Unit. **IMPORTANT: KEEP ALL PARTS CLEAN.**

File or grind scale and all high spots from the unground diameter of right hand drive shaft for a space of 8 in. from back side of gear.

Clean thoroughly and then dip side gear ends of axle shafts in rear axle lubricant (DO NOT USE CUP GREASE) approximately five inches before re-assembly. Insert Ford axle shaft through Overdrive Axle Unit as shown in illustration No. 2.

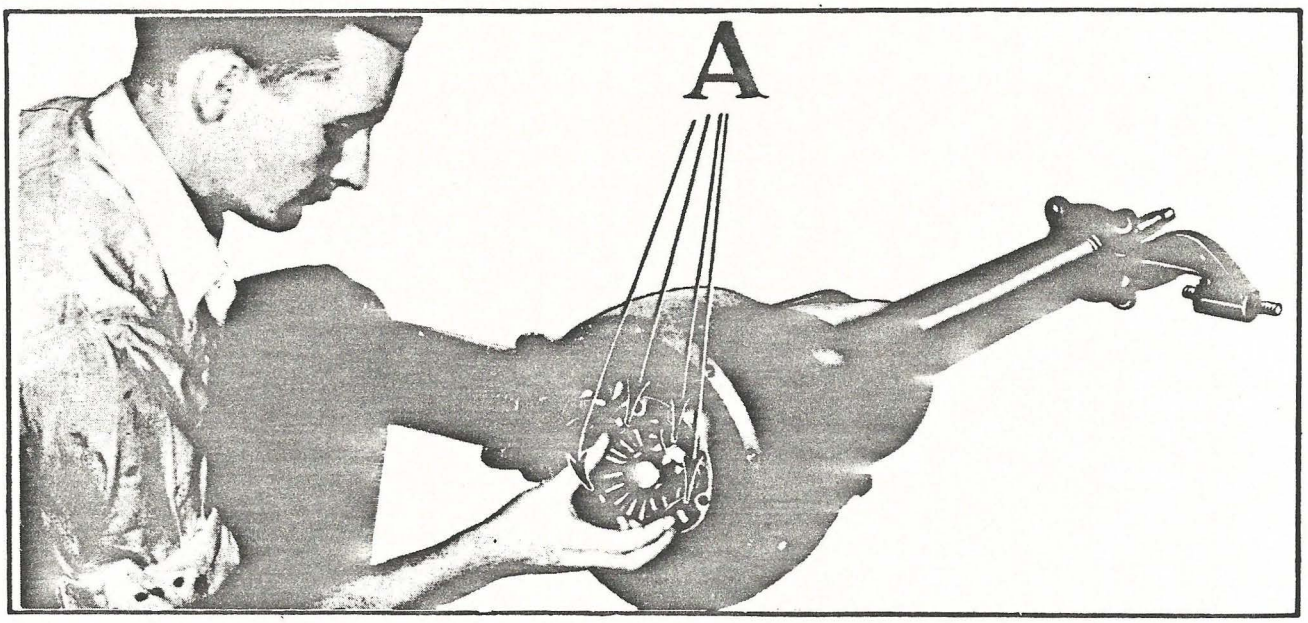


Illustration No. 3

ASSEMBLY OF DIFFERENTIAL PARTS (USE SUB-ASSEMBLY 64330)

Assemble original Ford differential pinions to the special differential spider provided in Sub-Assembly A, **AND BE CERTAIN THAT THE 4 BRONZE THRUST WASHERS** indicated by letter A in Illustration No. 3 **ARE INSTALLED ON SPIDER BACK OF PINIONS.** Assemble in the Overdrive Differential case as shown in Illustration No. 3 MAKING SURE PINIONS MESH PROPERLY INTO SIDE GEAR. NOTE: LUBRICATE WASHERS WITH OIL BEFORE ASSEMBLY (DO NOT USE GREASE)

OVERDRIVE CONTROL INSTALLATION

MERCURY 8

ASSEMBLY OF VACUUM TUBES (USE SUB-ASSEMBLY 64662)

Attach Vacuum tubes to left side rail with clips furnished, as shown in Installation Diagram.

NOTE: It is necessary to drill a 11/32 diameter hole through frame for attaching rear clip, the front clip or bracket being attached to body bolt in frame as shown.

Connect rubber tubes to vacuum cylinder on axle. Clip tubes to lower torque tube flange screw as shown by letter (F) in Installation Diagram and connect to vacuum copper tubes on side rail.

Connect front rubber tubes to copper tubes and pass under and around frame side rail into motor compartment.

ASSEMBLY OF VALVE AND CONNECTING PARTS (USE SUB-ASSEMBLY 64661)

Remove two cap screws from steering gear housing cover and attach valve and bracket assembly with two longer cap screws furnished as shown in Installation Diagram. **Be careful** that oil does not drain from steering gear housing when cap screws are removed. If necessary, reform Engine oil level gage to clear lever "J" on valve and connect front rubber tubes to valve.

VALVE OPERATING LEVER (LETTER C). Attach lever locating clip under lubricating fitting in hub of clutch pedal.

Place operating lever on clutch pedal next to hub and insert clamp screw through lever and locating clip, and clamp lever in place.

Connect valve to valve operating lever with rod "D" as shown.

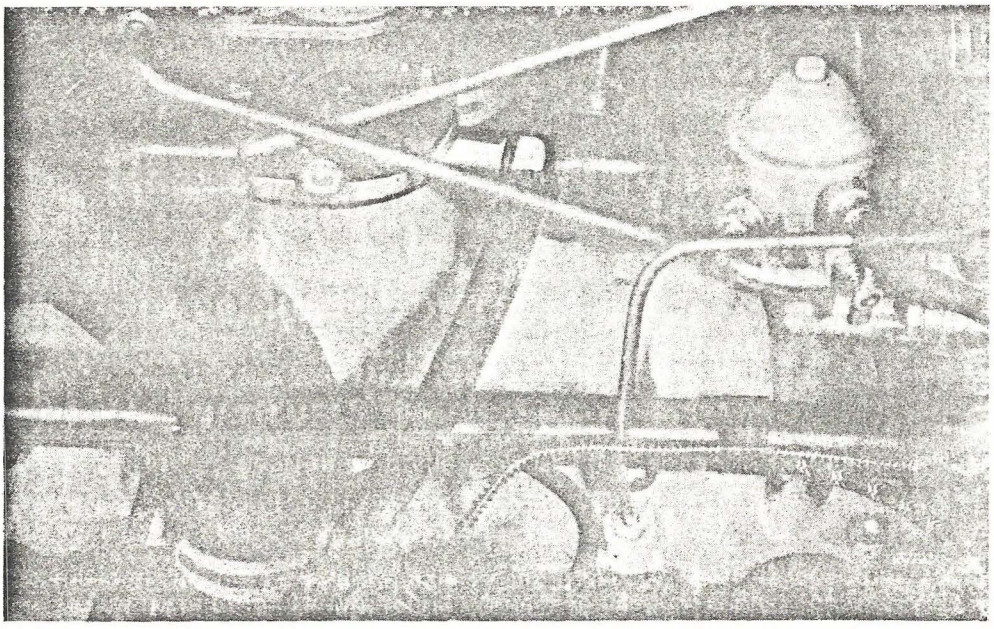
VALVE ADJUSTMENT

Adjust clevis in valve operating rod (D) shown in Diagram, so that lever (J) depresses plunger in valve at least 1/8 of an inch, but not to exceed 1/4 of an inch when clutch pedal is depressed to floor.

NOTE

Due to variation in the thickness of clutch pedals, we have found one case where valve operating lever (C) could not be assembled close enough to clutch pedal hub to permit the installation of lever locating clip.

If this condition is encountered, chip off just enough metal from the bottom of clutch pedal to allow lever (C) to go on far enough so that lever locating clip can be attached to same, as outlined in installation instructions.

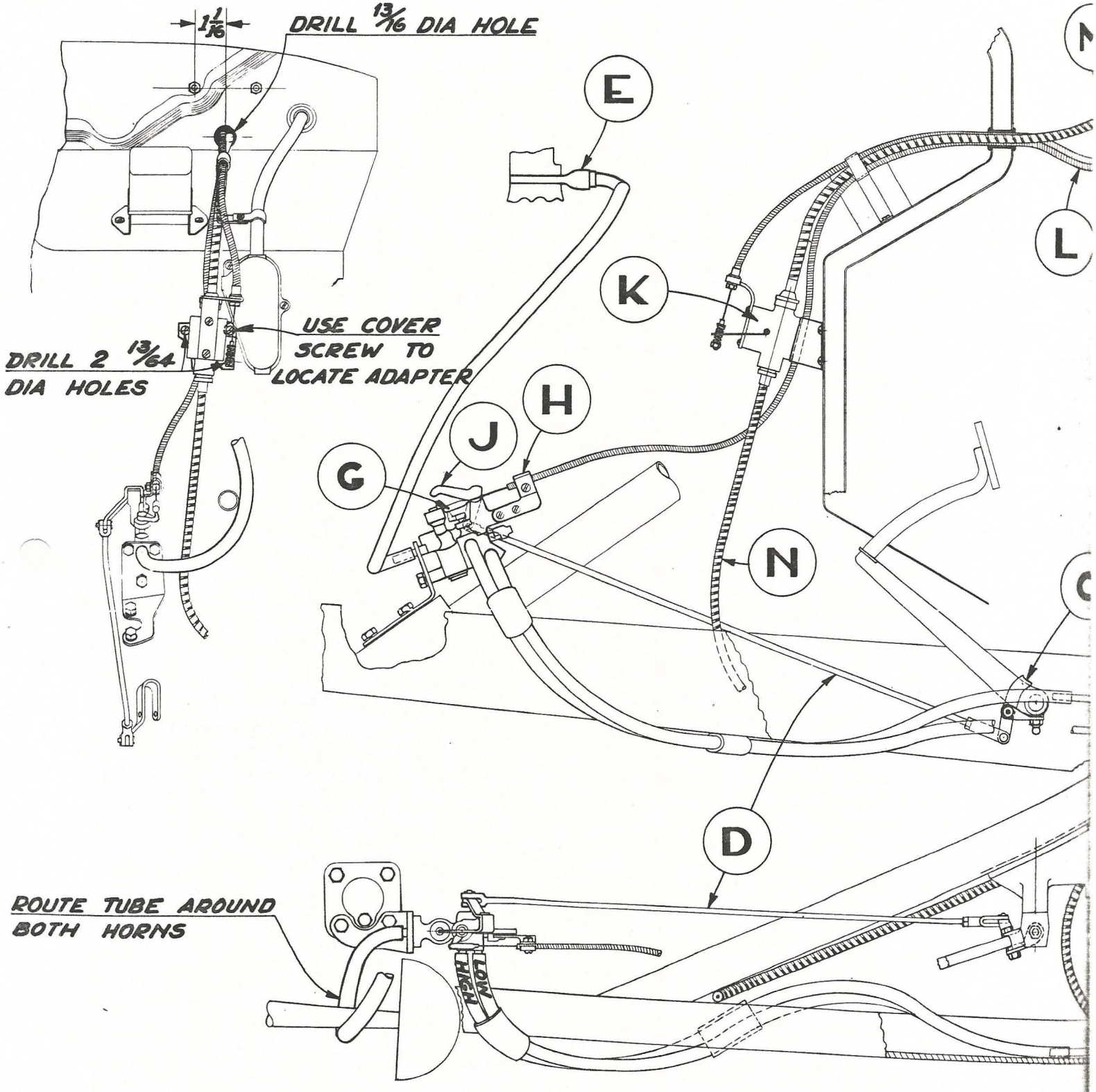


Remove carburetor from intake manifold and replace studs with longer ones furnished.

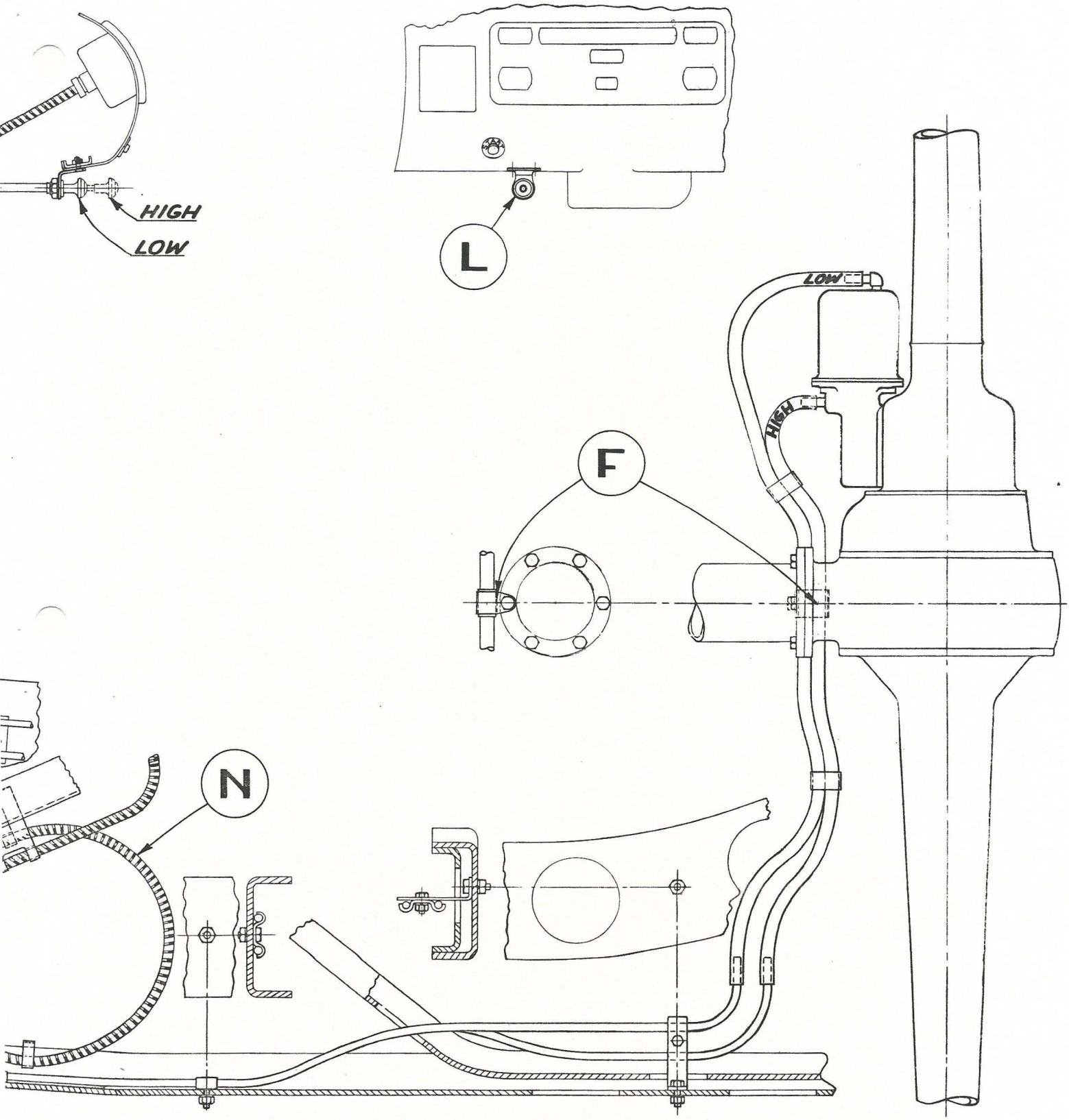
Insert manifold spacer with gasket on each side of spacer and attach carburetor.

Connect valve to spacer (E) with rubber tube furnished as shown in illustration No. 5, on Installation Diagram.

NOTE: Make sure that all joints are tight and that there are no sharp kinks in any part of the Vacuum lines to obstruct the passage of air.


1 1/16
DRILL 13/16 DIA HOLE
E
K
L
USE COVER SCREW TO LOCATE ADAPTER
DRILL 2 13/64 DIA HOLES
H
J
G
N
D
ROUTE TUBE AROUND BOTH HORNS
HIGH
LOW

DIAGRA



1940 FORD

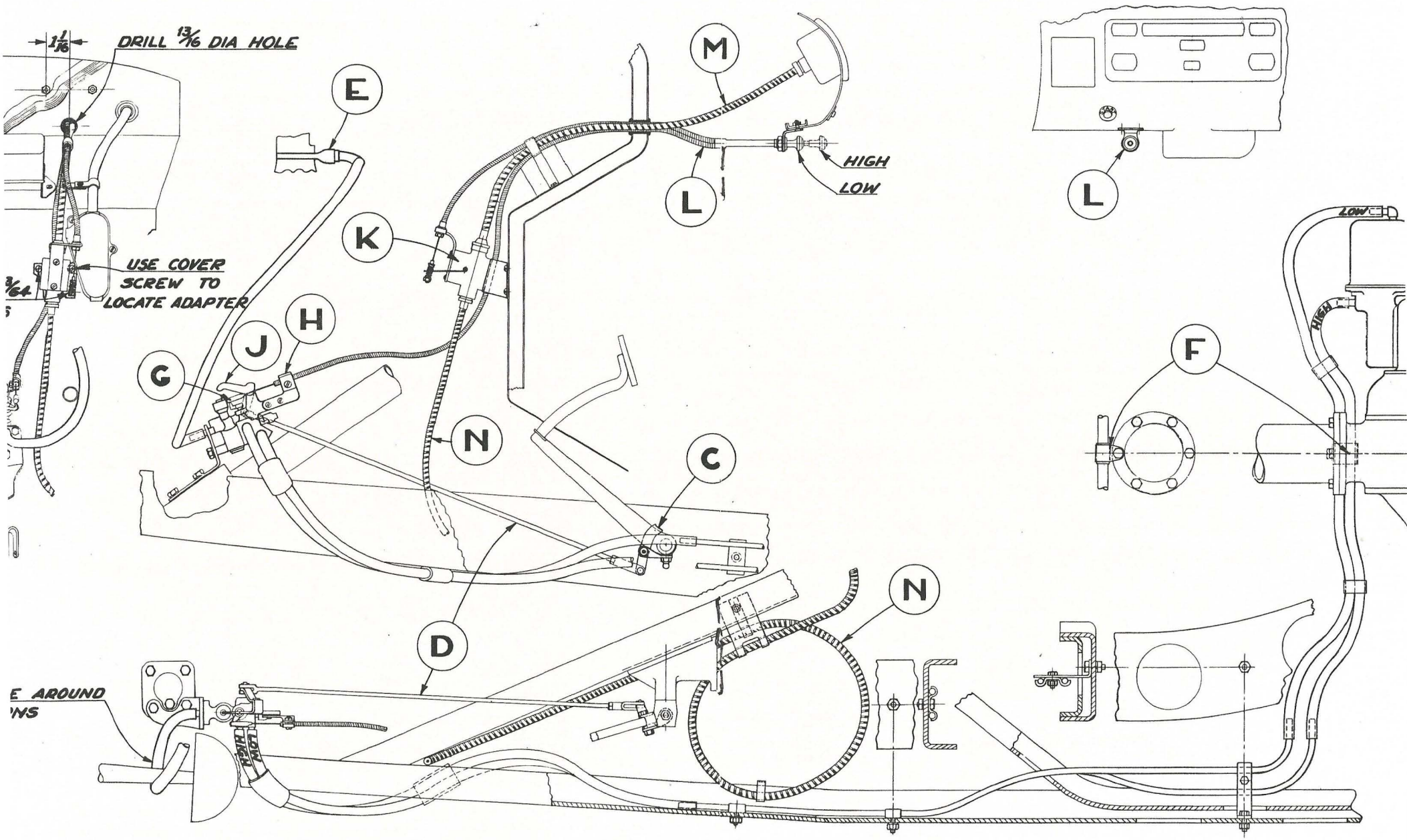


DIAGRAM 1940 FORD

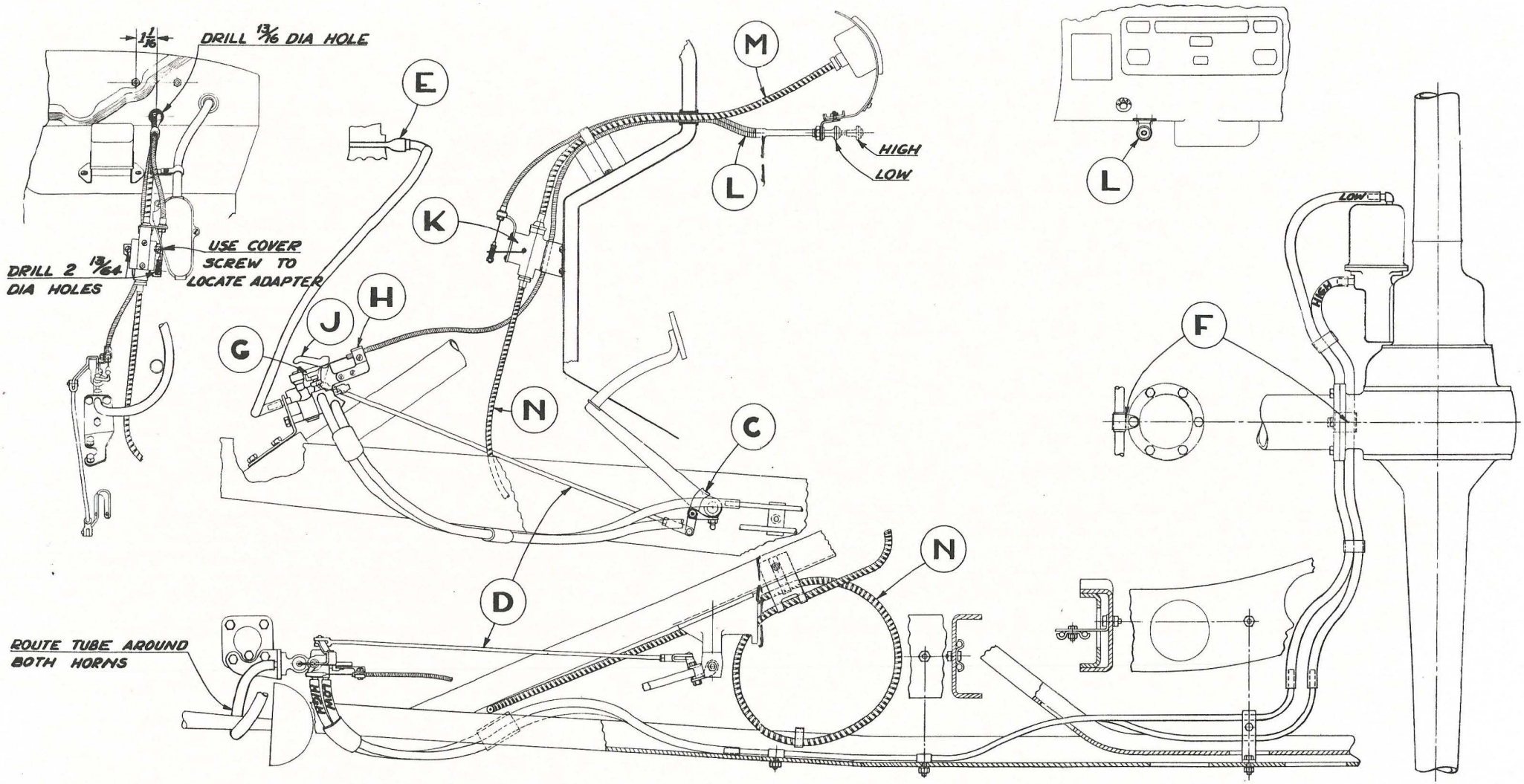


DIAGRAM 1940 FORD

OVERDRIVE CONTROL INSTALLATION

MERCURY 8

ASSEMBLY OF SPEEDOMETER ADAPTER AND CONTROL. (USE SUB-ASSEMBLY 64663)

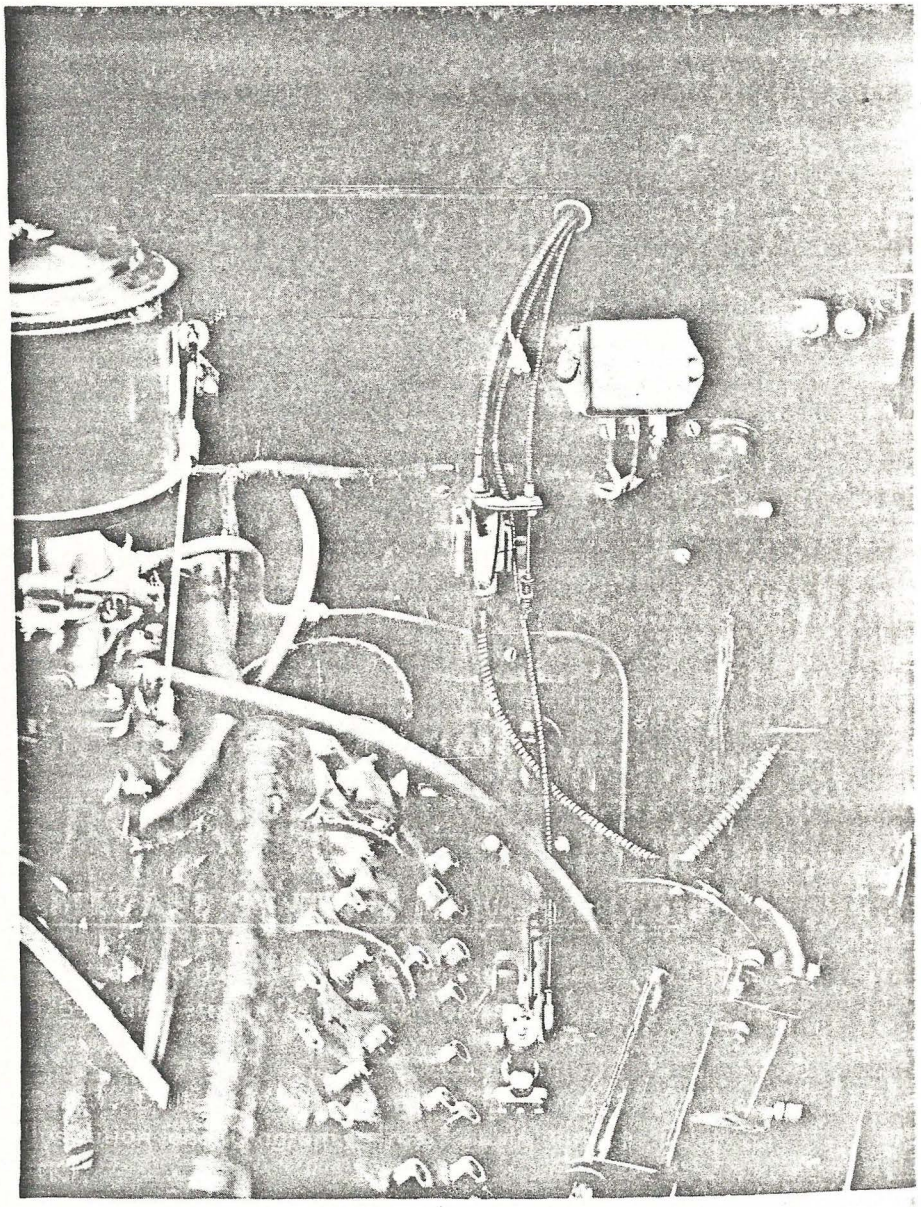
SPEEDOMETER ADAPTER (LETTER K). Attach to dash using wire harness clip screw, and locating through adapter bracket, drill two 13/64" diameter holes in dash for self-tapping screws, as shown in Illustration and Diagram.

SHORT SPEEDOMETER CABLE (LETTER M). Drill a 13/16" diameter hole in dash located next to rib and just below ledge, as shown in Illustration and Diagram. Insert cable through hole and attach to speedometer head and adapter (K).

CONTROL CABLE (LETTER L). Insert both long and short cable through 13/16" hole in dash and attach bracket to the lower flange of instrument panel using the two punched holes in flange located to the left of steering column. Connect cable to adapter and adapter lever, as shown. DO NOT BEND ADAPTER SPRING LEVER. Connect socket end of cable to bracket (H), making sure that lever (G) is in the forward detent stop position and Overdrive Control Button is tight against bracket on instrument panel. Assemble inner and outer grommets in dash over speedometer and control cables. Attach long control cable to clip on adapter bracket as shown in Diagram.

STANDARD SPEEDOMETER CABLE (LETTER N). Remove from front compartment. Route cable through elongated hole in frame X member. Pass over top of steering gear box, between valve and frame, pass under lower horn and up, clip to lower horn, and attach to adapter (K) as shown in Diagram.

NOTE: Avoid sharp bends under 5" radius in speedometer cable.



MERCURY INSTALLATION

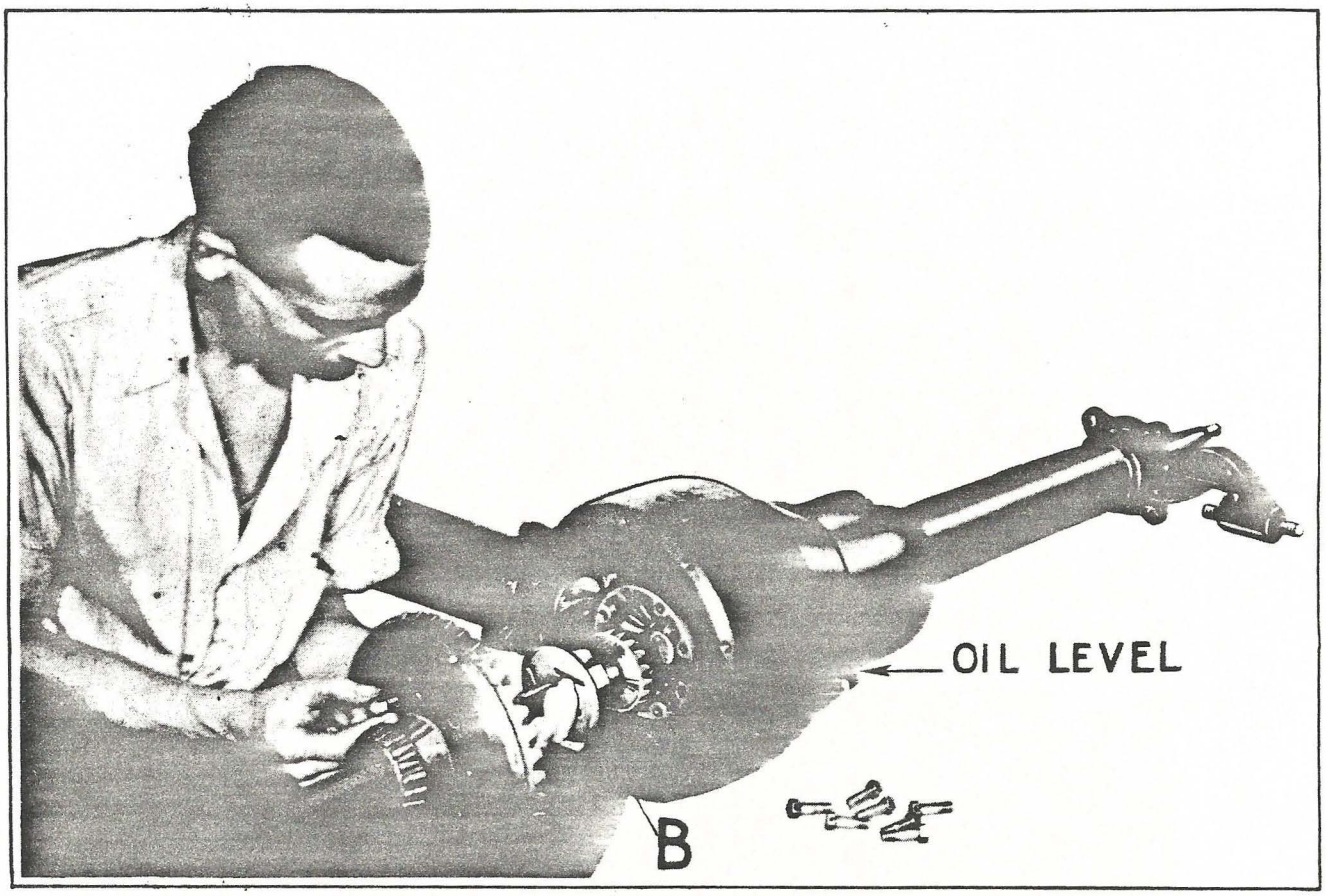


Illustration No. 4

ASSEMBLY OF DRIVE GEAR (USE SUB-ASSEMBLY 64066)

Insert Ford axle shaft with bronze washer in place, as indicated by letter (B) in illustration No. 4, through the original Ford drive gear and bearing assembly.

NOTE: Assemble washer so that both tongues enter slots through which the spider was assembled in Overdrive differential case. Be sure that tongues do not drop out of slots during assembly of Ford drive gear.

Bolt original Ford Drive Gear and bearing assembly to the Overdrive differential case using special cap screws provided as shown in illustration No. 4.

IMPORTANT: Drive gear and differential case surfaces must be absolutely clean and free from nicks to assure trueness of ring gear. **Drive gear bolts must be drawn up tight and wired with lock wire provided.**

ASSEMBLY OF STANDARD HOUSING

Assemble original Ford left hand axle housing to center member. Connect radius rods, shock absorber arms and spring shackles to axle. Assemble brake carrier plates and brake assemblies to axle, connect hydraulic brake pipe lines to radius rods and brakes. **CAUTION:** BE SURE to bleed brakes, in line with standard Ford practice.

Mount rear wheels and make sure that hub fits taper on axle shaft and does not ride on axle shaft key, also that shaft nuts are drawn up tight as possible and locked with cotter keys.

WARRANTY

The Columbia Axle Company warrants all such parts of new Columbia Overdrive Axles for a period of 90 days from the date of original delivery to the purchaser of each new Overdrive Axle or before the unit has been driven 4,000 miles, whichever event shall first occur, as shall, under normal use and service, appear to it to have been defective in workmanship or material. This warranty shall be limited to shipment, to the purchaser without charge, except for transportation, of the part or parts intended to replace those acknowledged by The Columbia Axle Company to be defective. The Columbia Axle Company cannot, however, and does not accept any responsibility in connection with any of its Overdrive Axles when they have been altered outside of its own factory. If the purchaser shall use or allow to be used in the axle, any parts not made or supplied by the Columbia Axle Company, then this warranty shall become void. The Columbia Axle Compa does not undertake responsibility to any purchase its products for any undertaking, representation o warranty made by sellers of those products, beyond those herein expressed.

The Columbia Axle Company reserves the right to make changes in design and changes or improvements upon its product without imposing any obligations upon itself to install the same upon its products heretofore manufactured.

The Columbia Axle Company

Cleveland, Ohio