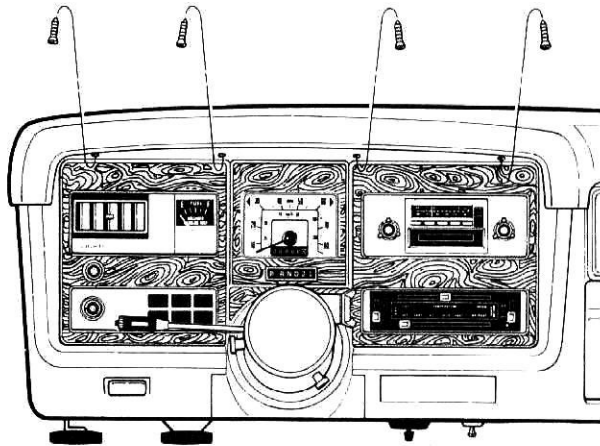


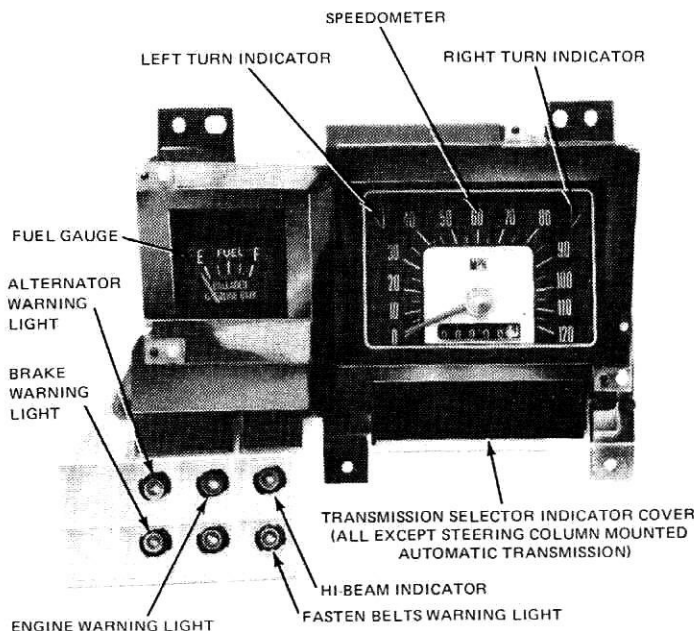


PULL COVER SLIGHTLY AWAY AT TOP; THEN CAREFULLY PULL REARWARD AT BOTTOM TO UNSNAP FOUR COVER TO PANEL RETAINERS.

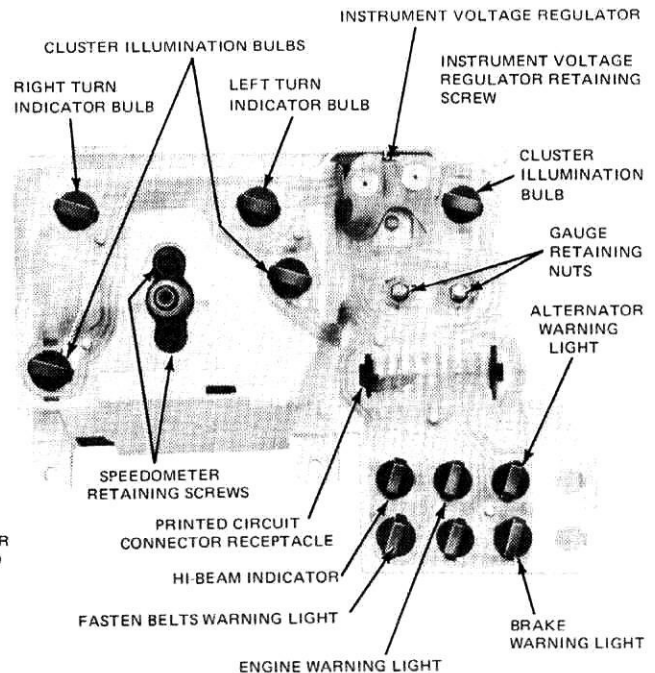
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FIG. 1 Instrument Cluster Finish Panel—Versailles Shown—Granada and Monarch Similar

7. Shift column selector lever into the "D" position. Loosen the bracket screw and slide the bracket until pointer aligns with the letter "D". Tighten bracket screw to 20-30 in-lbs torque. The entire width of the pointer must fall within the width of the letter "D", when viewed parallel to the centerline of the steering column from the drivers position. The pointer must touch other indicator letters.
8. Reach under the instrument panel and align the speedometer cable connector with the speedometer adapter and push the speedometer cable on the speedometer with a twisting motion until the catch is engaged.
9. Align the cluster front cover studs with the retainers and push the cover on gradually around the outer edges of the cover (Fig. 1).
10. Install the four (4) front cover retaining screws.
11. Install the headlamp switch bezel and knob and shaft assembly.
12. Install column shroud.
13. Install applique cover.
14. Connect battery ground cable.



FRONT ASSEMBLED VIEW



BACK ASSEMBLED VIEW

K3269-2B

FIG. 2 Front and Back Assembled View of Cluster Assembly With Callouts—Granada and Monarch Shown—Versailles Similar

DIAGNOSING

ELECTRICAL — INSTRUMENTS AND ACCESSORIES

CONDITION	POSSIBLE CAUSE	RESOLUTION
● Cigar lighter — knob pops out before adequate heating.	● Damaged element. ● Damaged socket.	● Replace element. ● Replace socket.
● Cigar lighter — element stays in, won't heat up.	● Fuse burnt out. ● Open in wiring. ● Damaged socket. ● Damaged element.	● Replace fuse. If fuse blows again, check for short circuit. ● Repair wiring. ● Replace socket. ● Replace element.
● Clock does not work.	● Fuse burnt out. ● Open in wiring. ● Damaged clock.	● Replace fuse. If fuse blows again, check for short circuit. ● Repair wiring. ● Replace clock.
● Horn sounds continuously — vehicles without speed control.	● Short circuit between column disconnect and horn(s). ● Short circuit in switch or column wiring.	● Repair as required. ● Repair as required.
● Horn sounds continuously — vehicles with speed control.	● Short circuit between horn relay disconnect and horn. ● Grounded circuit between horn switch and horn relay. ● Open horn switch. ● Damaged horn relay.	● Repair as required. ● Repair as required. ● Replace horn switch. ● Replace horn relay.
● Horn(s) inoperative .	● Fuse or C.B. burnt out. ● Poor horn ground. ● Horns out of adjustment. ● Damaged horn. ● Open in wiring. ● Damaged horn switch. ● Damaged turn signal switch and wiring. ● Damaged horn relay.	● Replace fuse or C.B. If fuse or C.B. goes again, check for short circuit. ● Assure a good ground. ● Adjust horn. ● Replace horn. ● Repair wiring. ● Replace horn switch. ● Repair or replace turn signal switch and wiring. ● Replace horn relay
● Gauge inoperative — (temp., fuel, oil pressure).	● Poor sending unit ground. ● Damaged sending unit. ● Open in wiring. ● Open IVR. ● Damaged gauge.	● Assure good ground. ● Replace sending unit. ● Repair wiring. ● Replace IVR. ● Replace gauge.
● Gauge inaccurate — (temp., fuel, oil pressure).	● Damaged sending unit. ● Damaged IVR ● Loose wiring.	● Replace sending unit. ● Replace IVR. ● Repair wiring.

ELECTRICAL – INSTRUMENTS AND ACCESSORIES		
CONDITION	POSSIBLE CAUSE	RESOLUTION
Low fuel warning light does not operate properly – Thunderbird, Mark V & Lincoln	- Damaged wiring circuit - Damaged relay	- Perform low fuel warning switch test. Repair or replace as required - Replace relay
Oil pressure light does not go out with ignition switch on (engine running)	- Short circuit between bulb and switch - Damaged switch - Low oil pressure	- Repair as necessary - Replace switch - Refer to engine diagnosis section in Volume II
Oil pressure light does not light with ignition key in start or run position. (engine not running)	- Bulb burnt out - Damaged sending unit - Burnt fuse - Open in wiring	- Replace bulb - Check continuity of sending unit. Check ground. Repair or replace as required - Replace fuse. If fuse blows again check for short circuit - Repair wiring
Hot temperature warning light does not go out (engine running)	- Damaged sending unit - Short circuit - Damaged ignition switch	- Replace sending unit - Check circuit to ignition prove out terminal. Repair as required - Check continuity of ignition switch prove out circuit. Replace as necessary
Hot temperature warning light does not light with engine cranking	- Fuse burnt out - Bulb burnt out - Open in wiring - Engine Overheats - Damaged ignition switch	- Replace fuse. If fuse blows again, check for short circuit - Replace bulb - Check circuit to ignition prove out terminal. Repair as required - Replace ignition switch
“Engine” light does not come on with ignition switch in “run” or “start” (engine not running)	- Fuse burnt out - Damaged oil pressure sending unit - Bulb burnt out - Open in wiring	- Replace fuse. If fuse blows again, check for short circuit - Replace sending unit - Replace bulb - Repair wiring as required
“Engine” warning light does not go out with ignition switch on (engine running)	- Grounded circuit between bulb and switches - Damaged switches - Engine problem	- Repair as required - Replace switches - Refer to engine diagnosis section for engine overheating or low oil pressure in Volume II

CK3399-2C2

ELECTRICAL – INSTRUMENTS AND ACCESSORIES

CONDITION	POSSIBLE CAUSE	RESOLUTION
● Key warning buzzer sounds when driver door is opened with key not in ignition lock cylinder	● Short in key warning switch ● Short in wiring	● Repair or replace key warning switch as necessary ● Repair as required
● Key warning buzzer inoperative	● Fuse burnt out ● Drivers door courtesy light switch defective ● Damaged buzzer ● Open in wiring ● Damaged key warning switch	● Replace fuse. If fuse blows again, check for short circuit ● Replace switch ● Replace buzzer ● Repair wiring ● Replace key warning switch
● "Headlights on" buzzer inoperative	● Improperly installed relay and wiring connections ● Open circuit, short circuit or faulty connection ● Improper relay ground ● Damaged relay	● Check and repair as required ● Repair as required ● Assure relay ground ● Replace relay
● Speedometer noisy	● Improper cable connection or routing ● Binding sensor ● Cable core kinked, burred or bent ● Damaged driven gear ● Damaged speedometer	● Check for proper cable connections at head. Check cable for kinks or bends. Repair or replace as required ● Check sensor for binding, erratic or noisy operation. Lube or replace sensor ● Lube and replace as required ● Replace driven gear ● Replace speedometer head

CK3400-2B1

ELECTRICAL – INSTRUMENTS AND ACCESSORIES		
CONDITION	POSSIBLE CAUSE	RESOLUTION
Speedometer/odometer inoperative	- Cable disconnected - Cable broken - Binding in sensor and/or speedometer	- Connect cable - Replace cable - Replace sensor or speedometer
Speedometer/odometer inaccurate	- Incorrect driven gear - Incorrect drive gear - Damaged speedometer	- Check speedometer and odometer over a measured mile. Check proper cable driven gear to match axle ratio and tire size. Replace gear - Check for proper drive gear for axle ratio and tire size. Replace gear - Replace speedometer
Ignition switch – improper operation	- Binding lock cylinder - Binding or bent linkage - Binding ignition switch - Ignition slide switch out of adjustment - Open in wiring - Inoperative ignition switch	- Repair or replace lock cylinder - Repair or replace linkage - Replace switch - Adjust slide switch - Repair wiring - Replace switch
Electric antenna motor operates in only one direction	- Open wiring between switch and antenna - Damaged switch - Inoperative antenna	- Repair wiring - Check continuity of switch. Replace if necessary - Replace antenna
Electric antenna motor runs but wand does not move	- Bent or corroded wand - Damaged antenna	- Clean and lubricate wand if corroded. Replace antenna if wand is bent beyond repair - Replace antenna
Electric antenna does not operate	- Fuse burnt out - Poor antenna ground - Open in wiring between switch and antenna - Inoperative switch - Inoperative antenna	- Replace fuse. If fuse blows again, check for short in wiring - Check antenna mounting bracket to assure a good ground - Repair wiring - Check continuity of switch. Replace if necessary - Replace antenna
Stereo tape player operates, but integral radio does not operate	- Binding, sticking or distorted tape cartridge - Inoperative tape player-radio unit	- Check insertion and release of tape. Check for binding, sticking or distorted cartridge. Radio should operate when cartridge is fully removed from tape slot - Have unit repaired.

ELECTRICAL – INSTRUMENTS AND ACCESSORIES		
CONDITION	POSSIBLE CAUSE	RESOLUTION
• Stereo tape unit does not operate but radio does operate	• Inoperative stereo tape player-radio	• Perform stereo tape unit check out procedure using tool aid cartridge (19A043). Have unit repaired
• Stereo tape programs do not automatically switch at end of each program (tape repeats)	• Damaged stereo tape player-radio	• Fully insert tool aid cartridge (19A043) in tape slot. Push volume control knob inward while tape is playing. Program should change. Try another music tape and repeat check. Remove unit for repair
• Stereo tape player sounds slow or draggy as if it has WOW or flutter	• Damaged stereo tape player-radio • Loose tape wrapped around capstan shaft	• Check operation with tool aid cartridge (19A043). If tool aid cartridge sounds OK, original cartridge may need replacement. Try another good tape. Remove unit for repair if necessary • Open cartridge door and check for loose tape that may be wrapped around capstan shaft. Do not use a foreign object, screwdriver, etc. to remove this tape. Remove unit for repair
• Excessive noise or hiss on tape	• Damaged stereo tape player-radio	• Check original tape for noise and hiss. Substitute another known good tape. If good tape does not correct the problem remove the unit for repair
• Sound from player is weak, fluctuating, or lacking in high frequency	• Tape player playback head is dirty • Damaged tape player	• Hold player cartridge door open and clean playback head with a cotton swab slightly moistened with alcohol. Also swab surface of capstan shaft with alcohol, taking care not to allow any to run down into shaft bearings • Remove unit for repair

CL2310-2B1

ELECTRICAL – INSTRUMENTS AND ACCESSORIES		
CONDITION	POSSIBLE CAUSE	RESOLUTION
• Speaker or speakers do not operate	• Inoperative speaker • Broken or damaged wiring and/or connections between radio and speaker(s) • Inoperative radio	• Substitute a known good speaker. Operate balance and fader controls. Replace speaker if necessary • Repair or replace as required • Remove radio chassis for repair
• Electric deck lid power release does not operate properly	• Fuse or C.B. blown • Inoperative deck lid switch • Open in supply circuit wiring • Latch binding • Poor latch ground or open circuit between latch and ground • Inoperative power lock solenoid	• Replace fuse. If fuse blows again, check for short circuit • Replace switch • Repair wiring • Repair or replace latch • Repair ground or open circuit • Replace power lock solenoid

CL2310-2B2

TESTING

PRINTED CIRCUIT

The printed circuit which supplies current to the instrument panel lamps, gauges, and some clocks, is made of copper foil which is banded to a polyester base film (usually referred to as Mylar).

The printed circuit is mounted to the cluster housing and due to its location, cannot be easily inspected and/

or tested in the vehicle. This makes the printed circuit vulnerable to damage when a probe is used for in-vehicle testing as the probe can pierce the printed circuit resulting in a short.

Since there is no approved procedure for in-vehicle testing of the printed circuit, it must be removed for visual inspection. If no visual damage is evident, each circuit should be tested with an ohmmeter or test light.

If an open circuit or short circuit is detected, the printed circuit must be replaced.

REMOVAL AND INSTALLATION

CLUSTER ASSEMBLY

Ford, Mercury and Lincoln Continental

Removal

1. Disconnect the battery ground cable.
2. Remove the two lower steering column cover attaching screws and remove the lower cover.
3. Remove the two instrument cluster trim cover attaching screws and remove the trim cover.
4. Reach behind the cluster and disconnect the cluster feed plug from its receptacle.
5. Disconnect the speedometer cable. Unsnap and remove the steering column shroud cover. Unhook the PRND21 cable from the tab in the shroud retainer.
6. Remove the screw attaching the transmission indicator (PRND21) cable bracket to the steering column. Detach the cable loop from the pin on the steering column.
7. Remove the four cluster attaching screws and remove the cluster assembly (Fig. 3 or 4).

Installation

1. Apply a 3/16 inch diameter ball of C5AZ-19581-A silicone lubricant or equivalent in the drive hole of the speedometer head.
2. Position the cluster to the instrument panel making sure the PRND21 cable is routed properly on the right side of the steering column between the brake pedal support and the instrument panel reinforcement and install the four attaching screws.
3. Place the transmission selector lever on the steering column in the P (park) position. (Do not place column selector lever into either the I position or the S position.)
4. Adjust the PRND21 pointer per instructions in previous steps of this part.
5. Reach under the instrument panel and align the speedometer cable connector with the speedometer adapter and push the speedometer cable on the speedometer with a twisting motion until the catch is engaged.

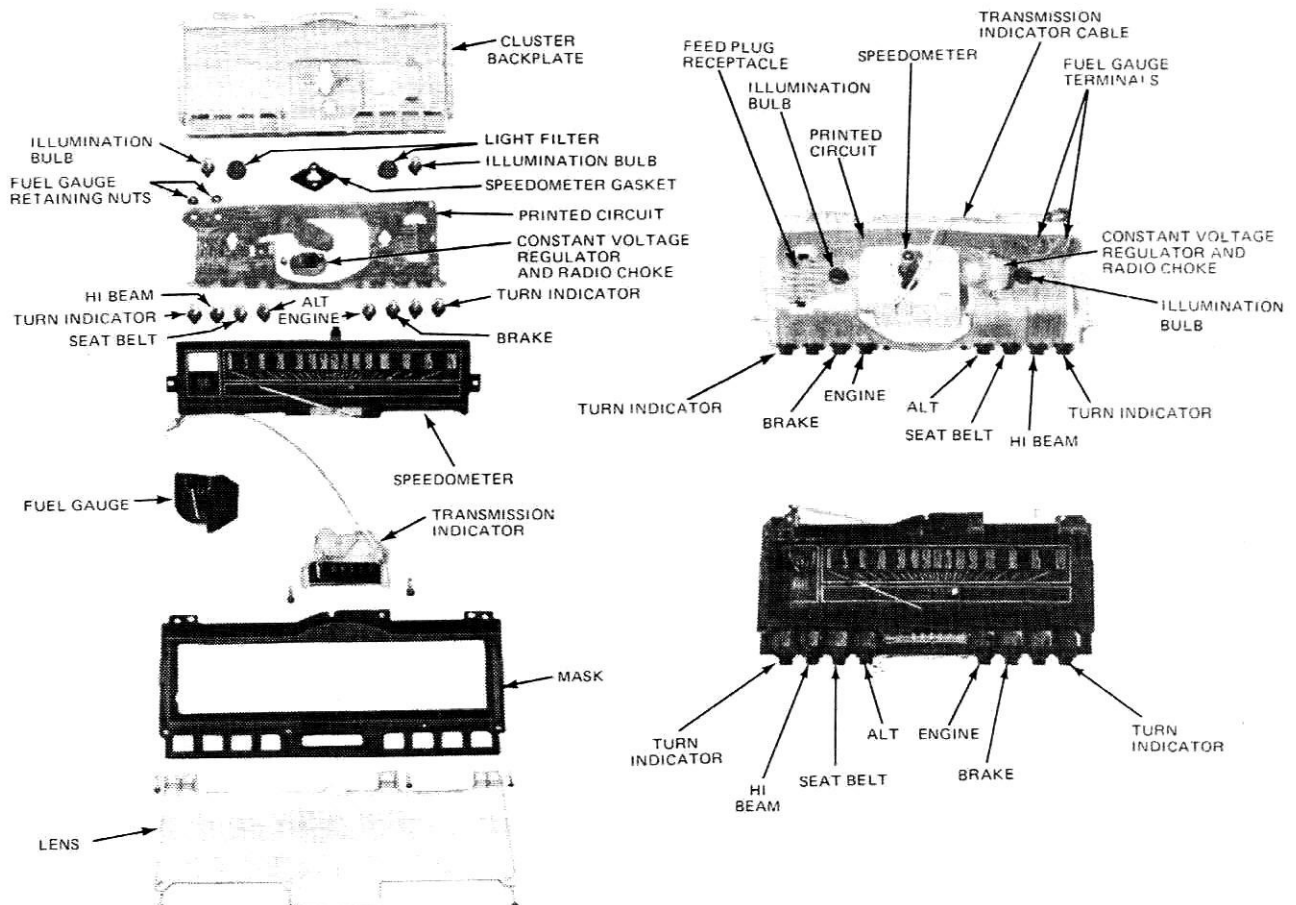
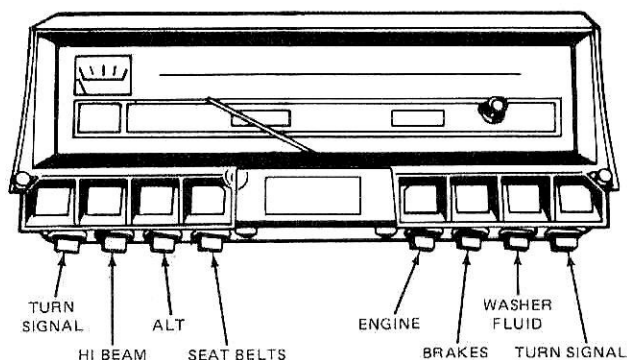


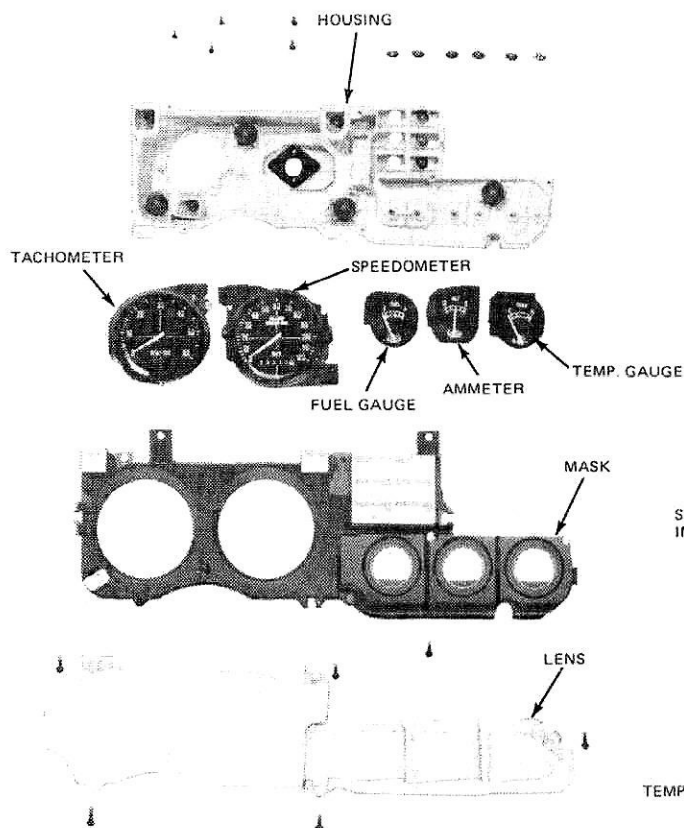
FIG. 3 Instrument Cluster—Ford, Mercury and Lincoln Continental



K3270-2C2

FIG. 4 Instrument Cluster—Lincoln Continental

6. Push the instrument cluster feed plug into its receptacle.
7. Position the instrument cluster trim cover and install the two attaching screws.
8. Position the lower steering column cover and install the two attaching screws. Position the lower steering column shroud cover around the steering column.



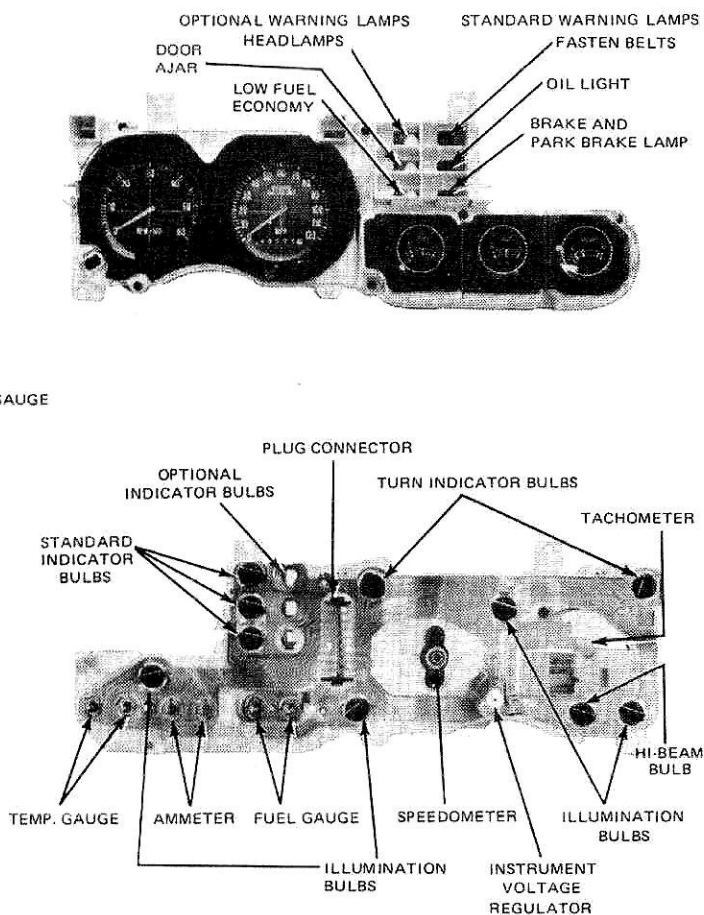
9. Connect the battery ground cable and check the operation of the instruments.

Mustang II**Removal**

1. Disconnect the battery ground cable. Remove the light switch knob and bezel as outlined in Part 32-02.
2. Remove three upper and four lower retaining screws from the instrument cluster trim cover and remove the trim cover.
3. From under the instrument panel, disconnect the speedometer cable by pressing on the flat surface of the plastic connector (quick connect).
4. Remove the two upper and two lower screws, retaining the instrument cluster to the instrument panel.
5. Pull the cluster away from the instrument panel, disconnect the cluster printed circuit connector from its receptacle in the cluster backplate and the tachometer from its receptacle.
6. Remove the cluster (Fig. 5).

Installation

1. Apply a 3/16 inch diameter ball of silicone damping grease in the drive hole of the speedometer head.
2. Position the cluster near the panel opening and install the cluster printed circuit connector in its



K3271-2C

FIG. 5 Instrument Cluster—Mustang II