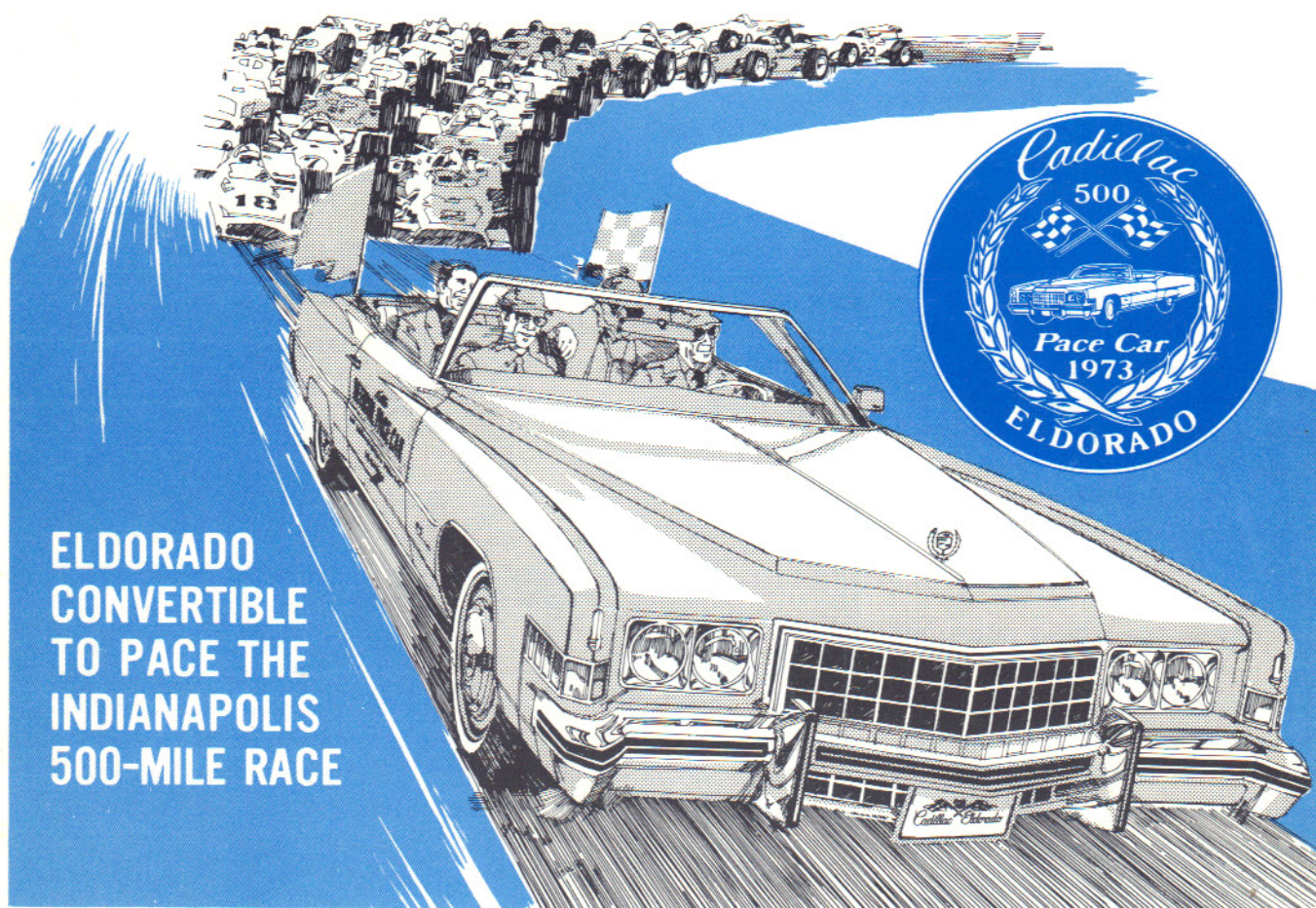


THE *Cadillac* MAY, 1973 SERVICEMAN

ELDORADO CONVERTIBLE TO PACE THE INDIANAPOLIS 500-MILE RACE

The 1973 Cadillac Eldorado Convertible, selected as the Official Pace Car for the 57th Annual Indianapolis 500-Mile race, will be leading the fastest 33 qualifying race cars around the track at the start of the race on Monday, May 28, 1973. This selection adds a new dimension to Cadillac's prestige.

Since 1936, the selected pace car has been awarded to the "500" winner. This year's prize will be awarded at the victory dinner on May 29 when more than \$1,000,000 will be distributed among the participants.

"Pace Car" Tires

The special steel belted radial whitewall tires—with raised white side lettering—installed on the limited production "500" Pace Cars are available for tire adjustment purposes only. Requests for the tires should be made through Cadillac Central Office, Customer Services Section.

INDY 500 SCHEDULE

Time Trials Weekend ..	May 12-13
Time Trials Weekend ..	May 19-20
Festival Parade	May 27
Race	May 28
Victory Banquet	May 29

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NEW POWER ANTENNA NOW SERVICEABLE

THE optional power antenna is serviceable on late 1973 cars effective with approximate Broadcast Nos. 256600, 378900 and 437375. The new antenna can be identified by a retainer that holds the cap with its automatic switch assembly to the drive housing, Fig. 1.

Service procedures for this antenna cover replacement of the antenna dog assembly, 160 3917; automatic switch, 160 3913; support tube, 160 3918; and motor and drive, 160 3916.

The flat rate time allowances for servicing the antenna are:

Oper. No.	Description	Time
R-1150-00	Antenna R & I or Replace	...3 hr.
R-1150-20	Add to Replace Motor Assembly	...3 hr.
R-1150-30	Add to Replace Mast and Support Tube	...3 hr.
R-1150-40	Replace Switch Assembly	...2 hr.
R-1150-50	Replace Dog Assembly	...1 hr.
R-1150-60	Replace Antenna Relay; includes R & I Cowl Trim Pad	...2 hr.

The times for the prototype serviceable antenna, as published in the Flat Rate Schedule, should be superseded by the times listed above.

SERVICE PROCEDURES (OFF CAR)

Antenna Dog Assembly

a. Disassembly

1. Clamp antenna lower mounting boss in vise.
2. Remove retainer securing automatic switch assembly to drive housing and remove switch assembly.
3. Using open end wrench, remove dog assembly from shaft by turning dog counterclockwise.

b. Assembly

1. Loosely install dog assembly on shaft by turning in clockwise direction.

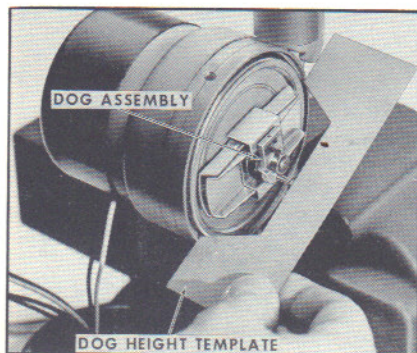


Fig. 2

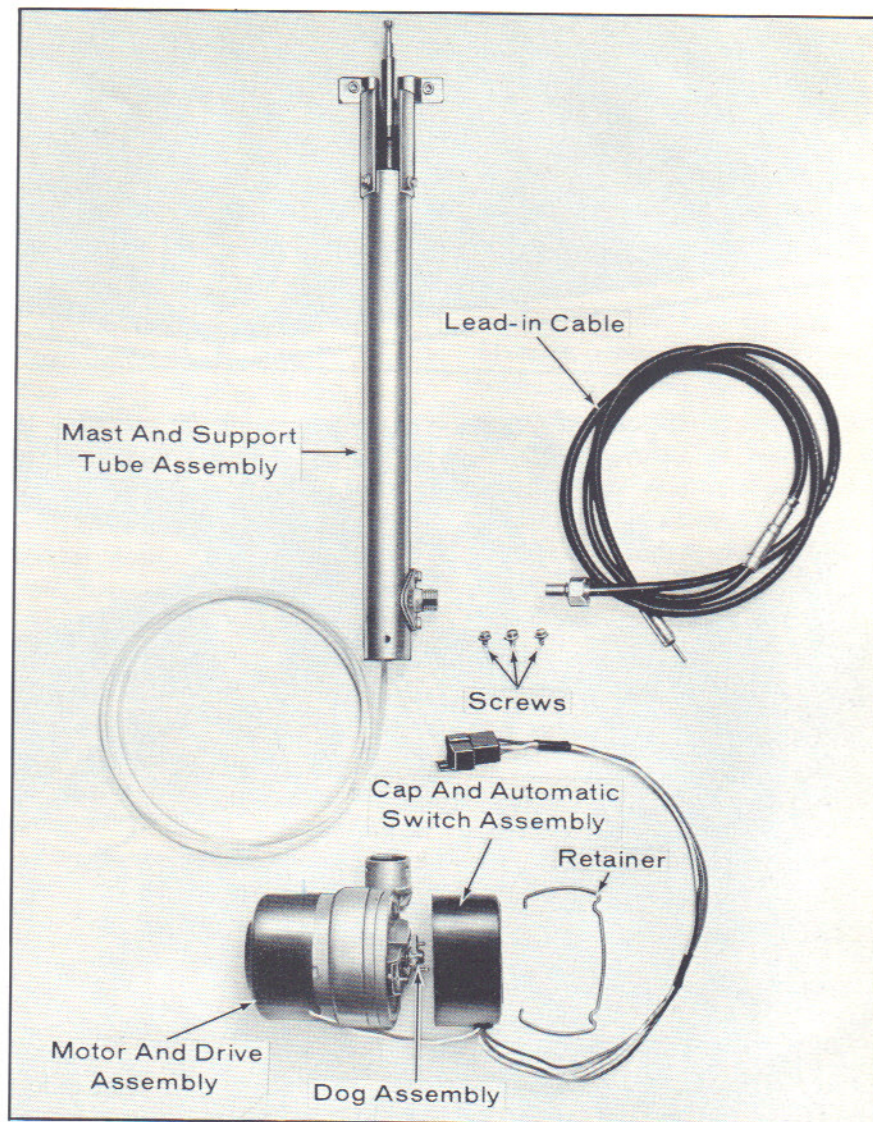


Fig. 1

2. Using template provided, measure distance between top of longest pin on dog to base of drive housing, Fig. 2. Adjust as necessary.

3. Position automatic switch assembly to drive housing and secure with retainer.

4. Remove antenna assembly from vise.

Antenna Automatic Switch

a. Disassembly

1. Clamp antenna lower mounting boss in vise.
2. Untape antenna wiring harness from support tube.
3. Remove retainer securing automatic switch assembly to drive housing and remove switch assembly.

4. Stagger cut black and white wires midway between motor and switch assembly and discard switch.

b. Assembly

1. Strip approximately 3/16" of insulation off black and white wires from both motor and switch leads.

2. Join leads together (black to black, and white to white) and solder securely.

3. Tape solder joints with electrical tape.

4. Position automatic switch assembly to drive housing and secure with retainer.

5. Tape antenna wiring harness to support tube.

6. Remove antenna assembly from vise.

(Continued on Page 25)

NEW POWER ANTENNA NOW SERVICEABLE

(Continued from Page 24)

Antenna Support Tube Assembly

a. Disassembly

1. Clamp antenna lower mounting boss in vise.
2. Untape antenna wiring harness from support tube.
3. Apply 12 volts to black wire in four-way connector while grounding antenna and run antenna to full up position.

4. Remove three screws securing support tube assembly to drive housing and pull support tube and Delrin cable completely out of drive housing.

Note: If cable cannot be pulled out by hand, remove ratcheting dog as outlined earlier.

b. Assembly

1. Add small amount of lithium grease to cable and insert end of Delrin cable into drive housing and push in as far as possible to start cable.

2. With antenna grounded, apply 12 volts to white wire in four way connector and run antenna all the way down, guiding cable and mast while retracting.

3. Position support tube assembly to drive housing and secure with three screws.

4. To adjust cable for height, run antenna up until it stops; then down as outlined in Disassembly Step 3, and Assembly Step 2.

Antenna Motor And Drive Assembly

a. Disassembly

1. Clamp antenna lower mounting boss in vise.
2. Untape antenna wiring harness from support tube.
3. Remove retainer securing automatic switch assembly to drive housing and remove switch assembly.

4. Using open end wrench, remove dog assembly from shaft by turning dog counterclockwise.

5. Stagger cut black and white wires midway between motor and switch assembly.

6. Remove three screws securing support tube assembly to drive housing and pull support tube and Delrin cable completely out of drive housing.

7. Remove motor and drive assembly from vise and discard.

b. Assembly

1. Clamp new motor and drive unit mounting boss in vise.

2. Using template (provided only as part of No. 160 3917 Dog Assem-

bly), measure distance between top of longest pin on dog to base of drive housing, Fig. 2. Adjust as necessary.

3. Strip approximately 3/16" of insulation off black and white wires from both motor and switch leads.

4. Join leads together (black to black, and white to white) and solder securely.

5. Tape solder joints with electrical tape.

6. Position automatic switch assembly to drive housing and secure with retainer.

7. Apply 12 volts to black wire in four way connector while grounding antenna and run antenna to full up position.

8. Add small amount of lithium grease to cable and insert end of Delrin cable into drive housing. Push in as far as possible to start cable.

9. With antenna grounded, apply 12 volts to white wire in four way connector and run antenna all the way down, guiding cable and mast while retracting.

10. Position support tube assembly to drive housing and secure with three screws.

11. To adjust cable for height, run antenna up until it stops; then down as outlined in steps 7 and 9.

THREE KEYS ON THEFT DETERRENT CARS

A UNIQUE three-key system is now included as part of the Theft Deterrent System on all cars except Seventy-Fives and Commercial Chassis. The oval key continues to be used for the trunk and glove compartment. A rectangular key is used only for unlocking the doors. The third (rectangular) key is used exclusively as an ignition key. It is similar to the door key, but has notches on two edges of the key head for identification.

Extra security against theft is provided with this three key system because car thieves no longer can make

a key that will fit the ignition lock by cutting a key corresponding to a door lock that had been removed and its tumbler code copied.

This extra security measure should substantially improve the protection offered by the Theft Deterrent System and can make this option more desirable to customers.

This new feature is added to cars with the Theft Deterrent System after Broadcast Nos. 236591, 432482 and 375390.

Note: The Seventy-Five Limousine continues to use a third key for the right rear door lock.

In This Issue

- Eldorado Convertible to Pace Indy 500-Mile Race
- †New Power Antenna Serviceable
- Three Keys On Theft Deterrent Cars
- Windshield Wiper Motor—New Service Procedures
- Clock Diagnosis and Corrections (CS-73-9)
- Transmission Manual Shaft Seal Revised
- Customer Services Seminar
- Prop Shaft Center Bearing Torque Revised

†This article affects Flat Rate.

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NO. 5

NEW WINDSHIELD WIPER MOTOR SERVICE PROCEDURES

THE windshield wiper motor assembly utilizes a combined park switch and terminal board assembly, Fig. 3, on later 1973 cars. Previously, the park switch and terminal board have been separate units, Fig. 4.

The separate-type and the one-piece assembly are not interchangeable because the one-piece assembly has a redesigned gear box, washer pump and washer pump cover.

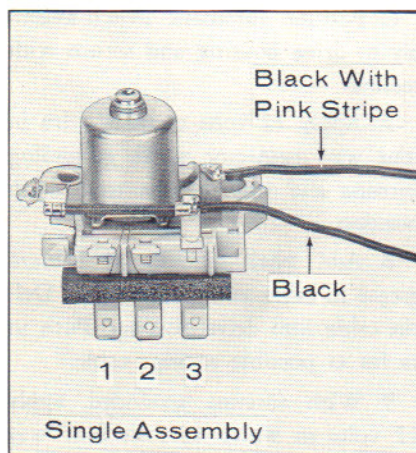


Fig. 3

Though the following procedures are new, diagnosis procedures remain the same.

New Service Procedures

- a. Park Switch and Terminal Board Assembly Removal and Disassembly
 1. Remove washer pump.

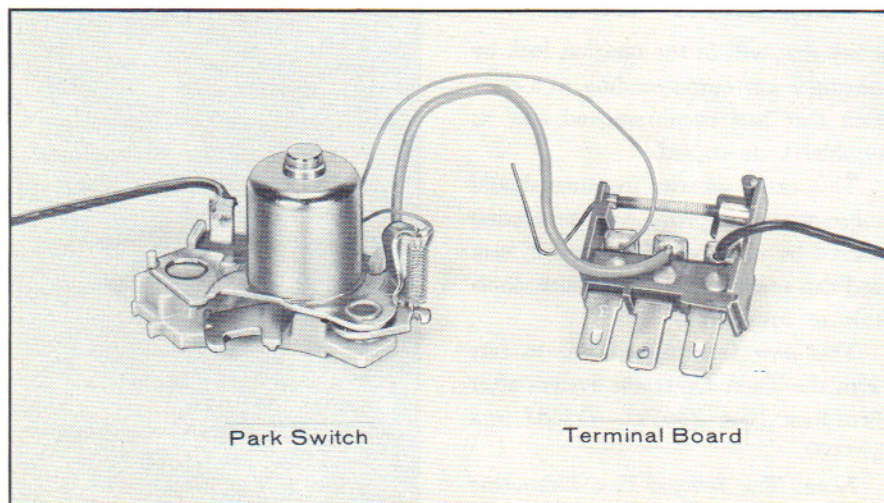


Fig. 4

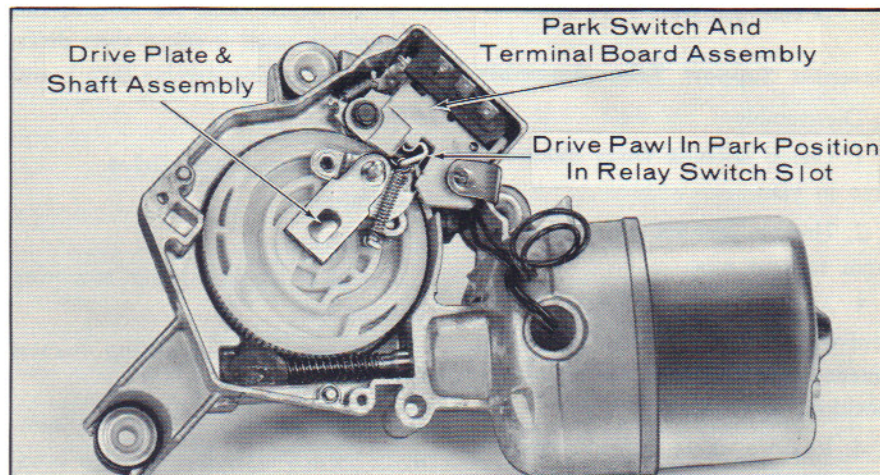


Fig. 5

Note: The wiper gear mechanism must be out of the Park position to permit removal of the park switch and terminal board assembly.

2. If wiper gear drive pawl is in Park position, Fig. 5, manually trip the relay latch arm toward the relay coil, and apply feed current to the center terminal of the wiper terminal board and ground to the motor case. The wiper motor will turn the gear, moving the drive pawl out of the Park position in the relay slot.

Note: If applying feed current to the center terminal does not energize the motor, remove some of the insulation from the black-with-pink-stripe wire between the motor and the relay,

and apply feed current at this point. Be sure to cover the exposed wire with tape after the operation is completed.

If wiper gear mechanism is not in Park position (drive pawl away from latch arm, Fig. 6), proceed to step 3.

3. Remove attaching screw and carefully lift park switch and terminal board assembly out of gear box. Unsolder leads as required.

- b. Reassembly of Park Switch and Terminal Board Assembly

1. Resolder leads to park switch and terminal board assembly as required, Fig. 3.

Note: Solder black wire to No. 3 terminal, and black-with-pink-stripe wire to fixed contact post.

2. Position park switch and terminal board assembly in housing.

Caution: Be certain leads are routed in such a manner as to avoid pinching between relay and wiper housing.

3. Install attaching screw.

4. Install washer pump to wiper motor. Refer to "Washer System"—Round Motor assembly of washer pump to wiper motor, in the 1973 Body Service Manual.

(Continued on Page 27)

NEW WINDSHIELD WIPER MOTOR SERVICE PROCEDURES

(Continued from Page 26)

Service part numbers for the new wiper motor and parts are:

Service Wiper Motor 496 0974

Service Washer Pump 496 0771

Park Switch & Terminal

Board Assy. 496 0755

The flat rate time allowances for removal, disassembly and assembly, and installation of the revised wiper motor assembly are the same as published allowances for the earlier motor assembly.

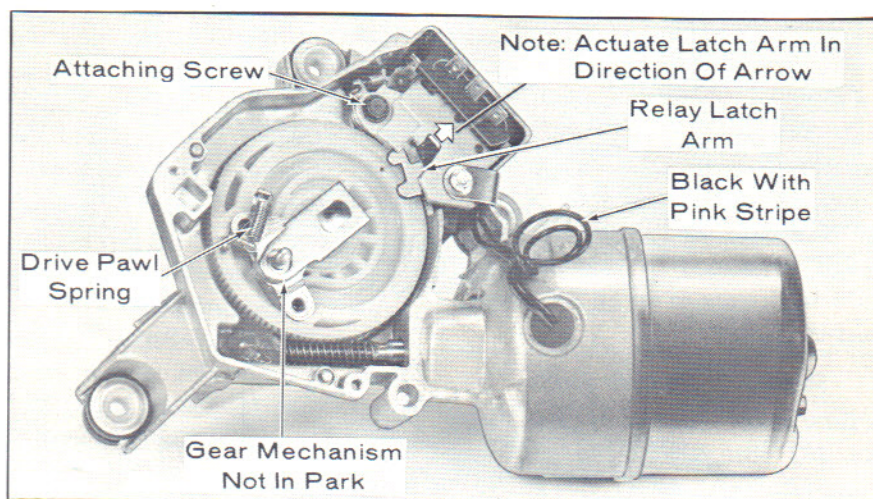


Fig. 6

CLOCK DIAGNOSIS AND CORRECTIONS REVIEWED

A RECENT factory analysis of clocks returned from dealerships revealed a large number were replaced unnecessarily. While no defect in operation could be found in many of the returned clocks, a number of these clocks were found to be running either fast or slow, indicating they only needed to be properly regulated.

Proper Regulation

Cadillac clocks have an automatic regulator incorporated in the resetting mechanism. Resetting the clock by fully depressing the reset knob and rotating the hands to the proper time will automatically regulate the clock approximately 20 seconds per day in the direction of correction. For example, moving the hands ahead will cause the clock to run faster by 20 seconds per day.

Because this regulation can be performed only once in a 6-hour time period, the initial movement of the clock hands is very important. Regulation in the wrong direction will cause the original time error to become worse.

If a clock loses or gains less than 5 minutes in a 24-hour period, the

clock is within specification and should not be replaced. After 4 or 5 proper regulations, the clock should be keeping correct time. In any case, the rea-

son for replacement must be clearly stated on the claim tag.

The following chart can be used when diagnosing clock problems.

CLOCK DIAGNOSIS

Condition	Correction
Clock Inoperative	Check terminal at back of clock for proper connection. Check for blown fuse. Disconnect clock. Care must be taken when removing connector. Replace fuse, if blown. Check for short or pinch in clock/lighter circuit. Replace fuse. If fuse remains intact, reconnect clock. Be careful not to bypass terminal on back of clock. If fuse blows again, replace clock, for internal short.
High reset effort	Replace clock.
Hands move together during resetting, or are loose on post	Replace clock.
Lens scratched or dirt embedded in clock face	Replace clock.
Time error greater than 5 minutes per day after 4 or 5 re-settings	Replace clock.
Time error less than 5 minutes per day	Regulate clock.

(CS-73-9)

TRANSMISSION MANUAL SHAFT SEAL REVISED

A CHANGE in the manual shaft and case is incorporated in late production of 1973 C-Car transmissions. The manual shaft seal and case are changed from the "O" ring seal design, mentioned in the February, 1973 *Serviceman*, to the lip seal design used in 1972.

Service Seals and Shafts

Early units with the lip seal, Part No. 862 3056, continue to use the manual shaft with the "O" ring groove, Part No. 862 7206. This manual shaft is common for either the lip seal or the "O" ring seal and for service. The "O" ring seal, Part No. 862 1767, continues to be used for service.

Service Cases

New transmission cases for service contain a lip seal for the manual shaft so that interchangeability is not affected. Case service package part numbers are listed below. Stock of the "O" ring type cases should be used to depletion. The lip seal design case package numbers will supersede the "O" ring design case package numbers.

CASE SERVICE PACKAGE		
	"O" RING DESIGN	LIP SEAL DESIGN
C-Car	862 6926	862 6952

The starting transmission serial number for this change is 73-AA-108544.

**THE Cadillac
SERVICEMAN**

**PUBLISHED BY SERVICE DEPARTMENT
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J. T. NEKERVIS.....Service Claims Manager
J. R. SABO.....Service Promotion Manager

CUSTOMER SERVICES NATIONAL SEMINAR

A NATIONAL meeting of Zone Customer Services Managers was held at the Cadillac Central Office in Detroit on April 12 and 13. Mr. O. R. Grogg, Customer Services Administrator, Mr. A. P. Caputo, Customer Services Manager, and Mr. W. B. Harrington, Customer Services Supervisor, conducted the two-day Seminar.

Attending the meeting from the Zones were: P. F. Bartels, Atlanta Zone; A. A. Broyles, Boston Zone; M. J. Bresnen, Jr., Chicago Zone; W. J. McCortney, Jr., Cincinnati Zone; J. B. Barcroft, Cleveland Zone; H. V. Holland, Dallas Zone; W. S. Westwood, Denver Zone; T. E. Rothermel, Detroit Zone; B. J. Lary, Jr., Jacksonville Zone; R. D. Rice, Kansas City Zone; A. E. Bowman, Los Angeles Zone; G. A. Karnes, Memphis Zone; R. L. Troutman, Minneapolis Zone; P. K. McCormick, Jr., New York Zone; R. F. Maden, Philadelphia Zone; D. L. Bardel, Portland Zone;

C. H. Stone, San Francisco Zone; J. J. Coleman, Washington Zone.

Mr. R. M. Phillips, National Service Manager, delivered opening remarks to the group, participated in several sessions and stressed the importance of service in Cadillac's present and future plans.

Mr. F. T. Hopkins, General Sales Manager, commended the group on its performance during the past year and encouraged continued fine performance in the future. In addition, Mr. Hopkins presented first and second place Customer Services Performance Awards to Cincinnati and Washington Zones in the East and Minneapolis and San Francisco Zones in the West.

All members of the group exchanged many helpful ideas, and it was generally agreed the meetings were of considerable benefit toward attaining Cadillac's future Customer Services objectives.



PROPELLER SHAFT CENTER BEARING SUPPORT TORQUES REVISED

THE torque for the two bolts and nuts securing the propeller shaft center bearing support-to-frame cross-member on Fleetwood Seventy-Fives and Commercial Chassis has been changed from 16 to 25 ft. lbs. Make this change in Note 27b, Step 6, Page

4-27, 1973 Shop Manual.

In addition, the torque for the propeller shaft torsional damper screws, listed in the Torque Specifications chart on Page 4-33, 1973 Shop Manual, should be changed from 23 to 25 ft. lbs.