

# Packard **SERVICE TECHNICAL** **Bulletin**

49T-31, Dealer 24  
November 15, 1949

To: ZONES AND DEALERS  
ATT: DEALERS' SERVICE MANAGERS

Subject: SERVICING AND TESTING ULTRAMATIC DRIVE CARS BEFORE AND AFTER DELIVERY TO THE OWNER.

We are justly proud of the Packard Ultramatic Drive. They are built at the Factory of the finest quality materials and the most skillful workmanship available. They must pass the most rigid inspection for quality workmanship and satisfactory performance. However, human errors may be present and in handling and shipping, minor damage may occur or parts may be thrown out of adjustment, affecting the performance of the Ultramatic Drive.

Therefore, it is imperative that all Ultramatic Drive cars be properly serviced and tested before delivery to the new owner. It is equally important that the owner be contacted by the Service Manager within one week to ten days after the owner has taken delivery of a new Packard Ultramatic Drive car. In making this contact, ask the new owner about the performance of his new car and the Ultramatic Drive. Invite the new owner to stop in your service department at his convenience so that you may road test the car with him. After the test, have all non-standard conditions corrected.

Contact the owner again within thirty to forty-five days after delivery, or by the time he has approximately 1000 miles on his car. Ask him about the performance of the car and the Ultramatic Drive. Ask him how many miles he has on his car and if it is near 1000 miles, invite him to bring the car in for the 1000 mile inspection at his convenience. When the owner brings the car in, test it again with him, pointing out to him the advantages in comfort, convenience, safety, ease of operation and economy to be obtained by keeping the Ultramatic Drive in proper adjustment and operating condition. These things done in a friendly manner will make the owner feel that you have a sincere personal interest in him and his car. This will go a long way toward good customer relations and greater owner satisfaction, which in the long run will mean greater service volume.

The tests and servicing operations may be performed easily and quickly by following the recommended procedures outlined below:

A. Before Starting the Engine:

- (1) Turn the ignition switch to the left and observe the selector indicator pointer for illumination.
- (2) Check the selector control linkage adjustment by raising the selector lever and moving it to the "P" (Park) position. Release the selector lever. The pin in the steering column selector bell crank should hold it locked in place.



Then raise the selector lever and move it toward the reverse position. Count the detent notches as they are felt. The third notch will be "L" (Low). Check the clearance between the stop pin on the steering column selector bell crank and the bracket on the steering column. The clearance should be .030 to .040 inch and can be adjusted by turning the selector rod turnbuckle as described on page 28 of the Packard Serviceman's Training Book, Servicing the Ultramatic Drive. Check the position of the selector pointer as the detent engages in the notches. Move the selector lever to the "N" (Neutral) position.

- (3) Check the accelerator and throttle linkage for free movement.
- (4) Turn the ignition switch to the right and start the engine. Observe the engine idle speed. It should not exceed approximately 800 r.p.m. in neutral when the engine is cold and it is on "fast idle." It should not exceed 375 r.p.m. in high range when the engine is warm and it is on "slow idle." Adjust the engine idle according to the instructions on page 28 of the Servicing the Ultramatic Drive book.

**B. After Starting the Engine:**

- (1) Check the fluid level.
- (2) Move the selector lever upward to the "P" (Park) position and hold it firmly against the stop. Accelerate the engine slightly. If there is a noticeable load on the engine, the high range clutch is engaging which could be the result of overtravel caused by improper selector linkage adjustment or improper control valve adjustment. Recheck the clearance at the stop pin in "L" (Low Range) position. If the selector linkage adjustments are correct, readjust the control valve link inside the transmission oil pan as described on page 26 of the Servicing the Ultramatic Drive book.
- (3) If the adjustments are correct and there is no tendency for the high range clutch to engage in "P" (Park) position, move the selector lever progressively to "H" (High Range), "L" (Low Range), and "R" (Reverse).

Notice any tendency of the car to creep in "H" (High Range). If the car creeps, the engine idle is too fast and should be corrected. There should be a natural tendency to creep at idle in "L" (Low Range) and "R" (Reverse). There should be no creep in "N" (Neutral). If the car creeps in neutral, readjust the low and reverse bands.

**C. Road Test the Car as Follows:**

- (1) Test the car for satisfactory acceleration in "H" (High Range). If it is lazy or sluggish, correct the engine performance.
- (2) Drive the car at light throttle opening and observe the speed at which the direct drive clutch engages. It should engage between approximately 15 and 22 m.p.h. at very light throttle opening. If the clutch fails to engage at the proper time, the throttle valve linkage may be out of adjustment and should be adjusted as described on page 29 of the Servicing the Ultramatic Drive book.
- (3) On deceleration, note if the direct drive clutch disengages between 10 and 13 m.p.h. on a gradual stop. Note if the clutch disengages on a sudden stop. The engine should not stall. If the engine stalls or the direct drive clutch hangs on, correct the condition as described on page 46 of the Servicing the Ultramatic Drive book.
- (4) Accelerate in high range at approximately half throttle opening and observe the speed at which the direct drive clutch engages. It should engage between approximately 30 and 45 m.p.h., depending on the engine



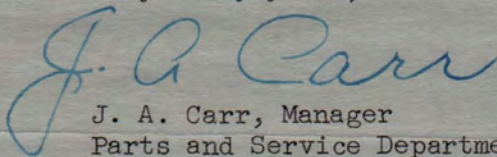
load and throttle opening. After the clutch has engaged try the operation of the kickdown at approximately 35 to 40 m.p.h. The direct drive clutch should disengage, and the drive will be through the converter when the accelerator is firmly pressed to the toe board. If the direct drive clutch fails to disengage, the throttle valve linkage may be out of adjustment, and should be adjusted according to the instructions on page 29 of the Servicing the Ultramatic Drive book. If the operation is satisfactory, bring the car to a full stop and test for satisfactory shift from low to high.

- (5) Accelerate in low range to approximately 25 m.p.h. and quickly move the selector lever to "H" (High Range) at wide open throttle. Observe for excessive overlap, or engine runaway, and general smoothness during the shift. Repeat this test at half throttle opening, and again at approximately 15 m.p.h. Then, when on coast at approximately 25 m.p.h., shift from high to low range, checking for excessive delay and severity of application of the low range band.
- (6) Check for any unusual noises while driving the car, or at curb idle. Check for smoothness of engine idle. Be sure all non-standard conditions are corrected before the car is delivered to the owner.

After the car is properly serviced and ready for delivery, the Dealer or Service Manager should demonstrate the proper use of the Ultramatic Drive to the owner; in starting, acceleration, normal steady driving, direct drive clutch operation, kickdown, and stopping. Show the owner how to back into tight places, as well as the use of low range and reverse for rocking the car when stuck in ice or snow.

Proper servicing, rigid inspection, and sincere courteous treatment of the owner, will prove to the new owner that you are personally interested in him and his car. Be sure the owner understands what the Ultramatic Drive is supposed to do, what it can do, and that we stand behind our product. Yes, we are justly proud of the Ultramatic Drive, but let's make sure the new Packard owner is as satisfied and as proud of the Ultramatic Drive.

Very truly yours,



J. A. Carr, Manager  
Parts and Service Department