

TRANSMISSION SERVICING - A/T

Article Text

1987 Volkswagen Quantum/Quantum Syncro
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Sunday, March 19, 2000 01:55AM

ARTICLE BEGINNING

AUTOMATIC TRANSMISSION SERVICING
1987 Volkswagen

IDENTIFICATION

TRANSMISSION CODES TABLE

Application		Code
Cabriolet, Golf, GTI, Jetta & Scirocco	010
Quantum	087 & 089
Vanagon	090

LUBRICATION

SERVICE INTERVALS

Check fluid level every 15,000 miles. Change fluid every 30,000 miles under severe driving conditions.

CHECKING FLUID LEVEL

Transmission

With transmission at normal operating temperature, park vehicle on level surface. Place selector lever in "P" or "N" position and apply parking brake. Allow engine to idle. Remove dipstick, wipe clean and insert. Remove dipstick and check that fluid level is between marks on dipstick.

Final Drive

Place vehicle on level surface. Fluid level must be up to edge of fill hole on side of case. If level is too high, this may indicate fluid transfer between transmission and final drive caused by leaking seals.

NOTE: Normal fluid color on late production vehicles is Red/Brown. This is normal.

RECOMMENDED FLUID

Transmission

Use Dexron II ATF.

Final Drive

Use API GL-5, SAE 90.

FLUID CAPACITY

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TRANSMISSION REFILL CAPACITIES TABLE

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Application	Refill Qts. (L)	Dry Fill Qts. (L)
All Models	3.2 (3.0L)	6.4 (6.0)

FINAL DRIVE REFILL CAPACITIES TABLE

FINAL DRIVE REFILL CAPACITIES TABLE	
Model	Qts. (L)
All Except Vanagon	.8 (.76)
Vanagon	1.3 (1.23)

DRAINING & REFILLING

1) Remove transaxle protection plate. Remove rear pan bolts and loosen front pan bolts. Carefully lower pan and drain as much fluid as possible. Remove oil pan and pour out remaining fluid. Remove filter. Clean oil pan in solvent and dry, using compressed air.

2) Install new filter and tighten screws to 27 INCH lbs. (3 N.m). Install oil pan, using new gasket. Tighten oil pan bolts to 15 ft. lbs. (20 N.m). Install protection plate, tighten bolts to 18 ft. lbs. (25 N.m). Add 3.2 qts. (3.0L) of transmission fluid and check fluid level.

ADJUSTMENTS

SECOND BRAKE BAND

1) Adjust brake band with transmission in a horizontal position only. Loosen adjustment screw lock nut. Tighten brake band adjustment screw to 90 INCH lbs. (10 N.m). See Fig. 1.

2) Loosen adjustment screw, then tighten to 45 INCH lbs. (5 N.m). Back off 2 turns on 5-cylinder engines or 2 1/2 turns on 4-cylinder engines. Tighten lock nut to 178 INCH lbs. (20 N.m).

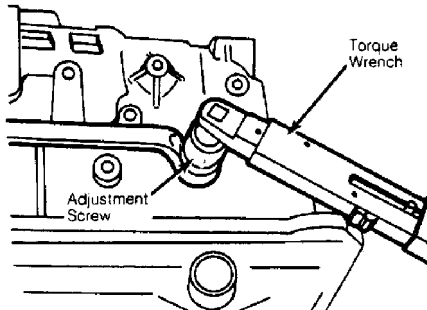


Fig. 1: Adjusting Second Brake Band
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SELECTOR LEVER CABLE

Vanagon

Place transmission lever in "P" position. Loosen bolt which retains shift rod to operating lever on transaxle. See Fig. 2. Ensure selector lever and transaxle operating lever are in "P" position. Push shift rod to rear and tighten bolt.

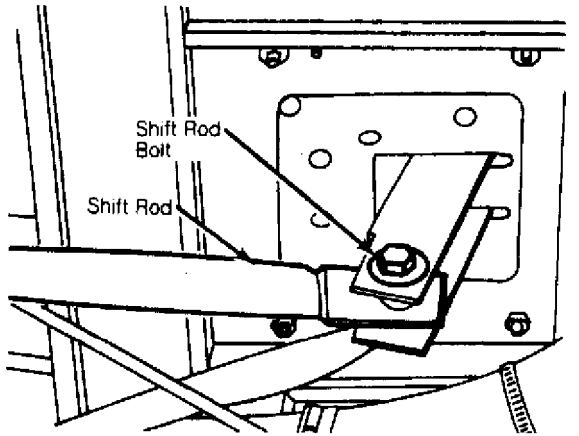


Fig. 2: Adjusting Vanagon Shift Lever
Courtesy of Volkswagen United States, Inc.

All Others

Place transmission in "P" position. Loosen nut for clamping pin which retains selector cable to operating lever on transaxle. Ensure selector lever and transaxle operating lever are in "P" position. Tighten cable clamping nut to 72 INCH lbs. (8 N.m).

THROTTLE CABLE

NOTE: Accelerator linkage must be adjusted so that the operating lever on transmission is against stop when throttle valve is closed.

Cabriolet, Golf, GTI, Jetta & Scirocco

1) Engine must be at operating temperature and turned off. Place gear selector in "P" position. Loosen adjusting nut and lock nut on throttle cable at transaxle. Disconnect throttle cable from transaxle. See Fig. 3.



Fig. 3: Transaxle Throttle Cable (All Except Quantum & Vanagon)
Courtesy of Volkswagen United States, Inc.

2) Loosen lock nuts on throttle cable support bracket. Push throttle cable sleeve in direction of arrow until there is no play. See Fig. 4.

3) Throttle valve must remain closed and

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accelerator/transaxle linkage must be in closed position.

4) Turn lock nut No. 1 against support bracket. Tighten lock nut No. 2. Install accelerator cable on transaxle.

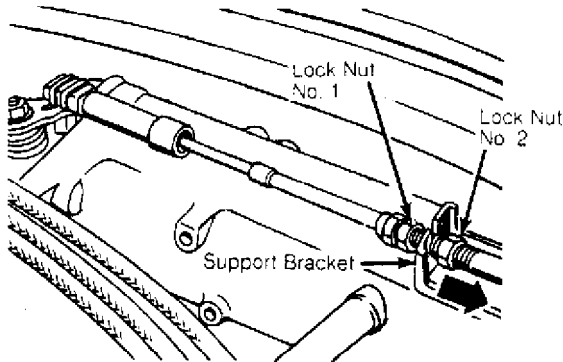


Fig. 4: Adjusting Throttle Cable (All Except Quantum & Vanagon)
Courtesy of Volkswagen United States, Inc.

5) Depress accelerator pedal completely and hold there. Working at transaxle, push transaxle operating lever against kickdown adjusting nuts.

6) Turn adjusting nut until all slack is removed from cable. Release accelerator pedal. Ensure transaxle operating lever rests against kickdown stop. Tighten lock nut.

Quantum (087 Transaxle)

1) Engine must be at operating temperature and turned off. Place accelerator in idle position. Place selector lever in "P" position. Apply parking brake.

2) Loosen adjusting nut on throttle cable at transaxle. Remove retaining clips for ball sockets of push and pull rods. Pry ball sockets from relay bracket levers. See Fig. 5.

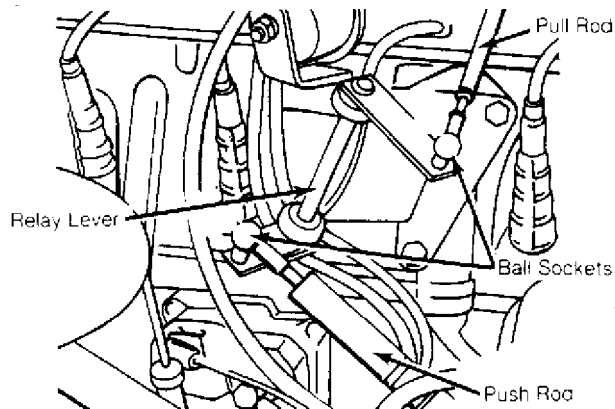


Fig. 5: Quantum Push & Pull Rods
Courtesy of Volkswagen United States, Inc.

3) Rotate pull rod relay lever counterclockwise to stop. With relay lever against stop, loosen pull rod lock nut and turn ball socket until it fits easily on relay lever ball stud.

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4) Tighten lock nut. Install push rod socket on relay lever. Install both ball socket retaining clips.

5) Loosen nut on push rod. See Fig. 6. Slide push rod apart so transaxle operating lever is in closed-throttle position and throttle body lever is against idle stop. Tighten nut on push rod.

NOTE: Ensure push rod fits easily on transmission operating lever.

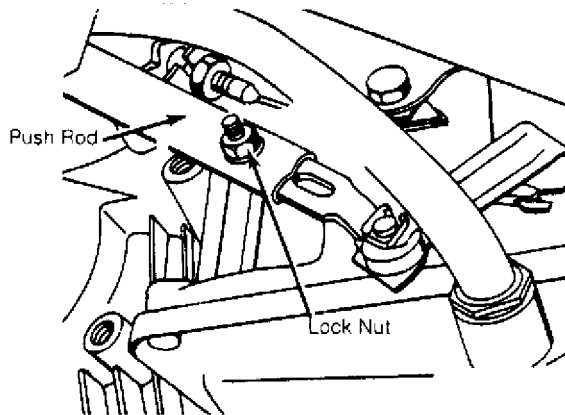


Fig. 6: Adjusting Quantum Transaxle Push Rod
Courtesy of Volkswagen United States, Inc.

6) Loosen lock nut located below adjusting nut on throttle cable. See Fig. 7. Depress accelerator pedal to stop on floor and hold.

7) Turn adjusting nut until transaxle operating lever moves, in direction of arrow, to stop. Tighten lock nut.

8) To check adjustment, push throttle lever against idle stop. Transaxle operating lever must be in closed-throttle position. Place accelerator pedal in full-throttle position, WITHOUT engaging kickdown. Throttle valve lever must contact full-throttle stop and kickdown spring in push rod must NOT be compressed.

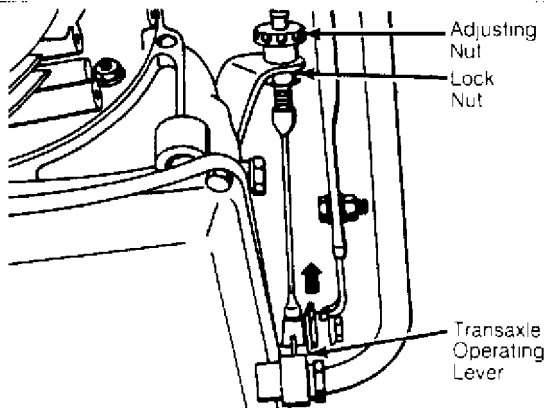


Fig. 7: Quantum Throttle Cable
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9) Press accelerator pedal to stop (kickdown position).

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Transaxle operating lever must contact stop and kickdown spring in push rod must be compressed. Distance "A" on push rod must be $13/32$ " (10.5 mm). See Fig. 8.

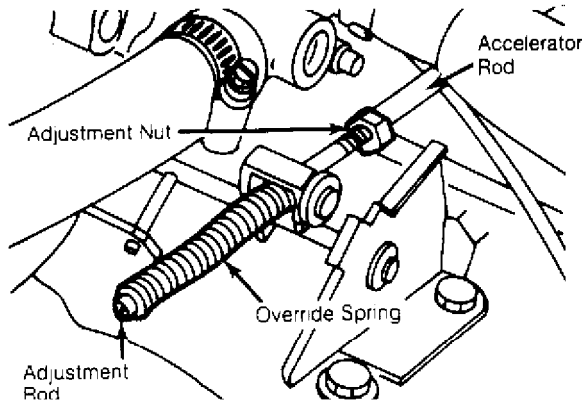


Fig. 8: Checking Quantum Push Rod Adjustment
Courtesy of Volkswagen United States, Inc.

Vanagon

1) To check adjustment, place accelerator pedal in full throttle position. Throttle lever must contact stop, but kickdown lever on transaxle must NOT be in kickdown position.

2) Press accelerator pedal beyond full throttle position to floor. Override spring must be compressed and kickdown lever on transaxle must be in kickdown position. If not, readjust.

3) Loosen adjustment nut and remove override spring. See Fig. 9. Start engine and readjust idle speed, if necessary. Turn engine off.

4) Push accelerator rod to closed throttle position (against stop). Using a screwdriver, turn adjustment rod until it just contacts throttle lever pivot.

5) Install override spring, start engine and check idle speed. If necessary, adjust idle speed by turning rod. Tighten lock nut on adjustment rod.

6) Depress accelerator pedal to floor. Kickdown lever on transaxle must be in kickdown position on stop.

7) Release accelerator pedal. Kickdown lever on transaxle must return to idle position. If necessary, adjust throttle cable at clamping bolt. Clamping bolt is located at accelerator pedal end of accelerator cable.

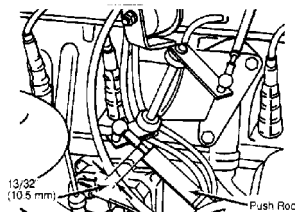


Fig. 9: Adjusting Vanagon Accelerator Rod
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NEUTRAL SAFETY SWITCH

Neutral safety switch is located in shift console. Remove console cover and adjust switch so that engine starts in "P" and "N" positions only.

END OF ARTICLE