

2002 MANUAL TRANSMISSIONS

Servicing - Toyota

APPLICATION

TRANSAXLE/TRANSMISSION APPLICATION

Application	Trans. Model
Camry	E351 5-Speed
Celica	C59 5-Speed Or C60 6-Speed
Corolla	C59 5-Speed
ECHO	C150 5-Speed
RAV4	
AWD	E352F 5-Speed
FWD	E352 5-Speed
Solara	
2.4L	E351 5-Speed
3.0L	E153 5-Speed
Tacoma	
RWD	
2.4L 4-Cyl.	W59 5-Speed
3.4L V6	R150 5-Speed
4WD	
2.7L 4-Cyl.	W59 5-Speed
3.4L V6	R150F 5-Speed
Tundra	
RWD	R150 5-Speed
4WD	R150F 5-Speed

TRANSFER CASE APPLICATION

Application	Transfer Case Model
RAV4	MV2AV
Tacoma	
2.7L 4-Cyl	(1) w/W59
3.4L V6	(1) w/R150F
Tundra	VF2A
(1) Transfer case is not identified by model.	

LUBRICATION

SERVICE INTERVALS

Transaxle/Transmission

Check transmission fluid level every 30,000 miles or 24 months. Service interval is not available for vehicles operated under normal conditions. Under severe conditions such as trailer towing, police, taxi, local delivery service or operating under dusty conditions, replace transmission fluid every 30,000 miles or 24 months.

Transfer Case

Check transfer case fluid level every 15,000 miles or 12 months. Service interval is not available for vehicles operated under normal conditions. Under severe conditions such as trailer towing, police, taxi, local delivery service or operating under dusty conditions, replace transfer case fluid every 30,000 miles or 24 months, except on RAV4 which requires changing every 15,000 miles or 12 months.

CHECKING FLUID LEVELS

Transaxle/Transmission

Raise and support the vehicle. Ensure vehicle is level. Remove fill plug from transaxle/transmission. Fluid should be level with bottom edge of fill plug hole. See **Fig. 1 -Fig. 3** . If fluid is low, fill with appropriate fluid until fluid is level with fill plug opening. See **RECOMMENDED FLUIDS** . Reinstall fill plug. Tighten to specification. See **TORQUE SPECIFICATIONS** .

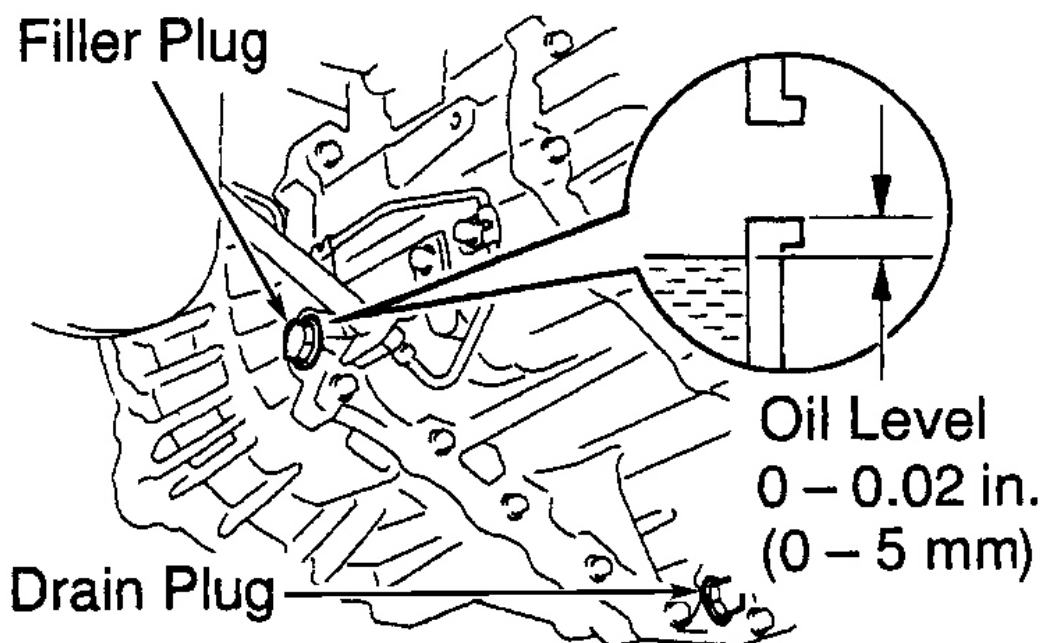
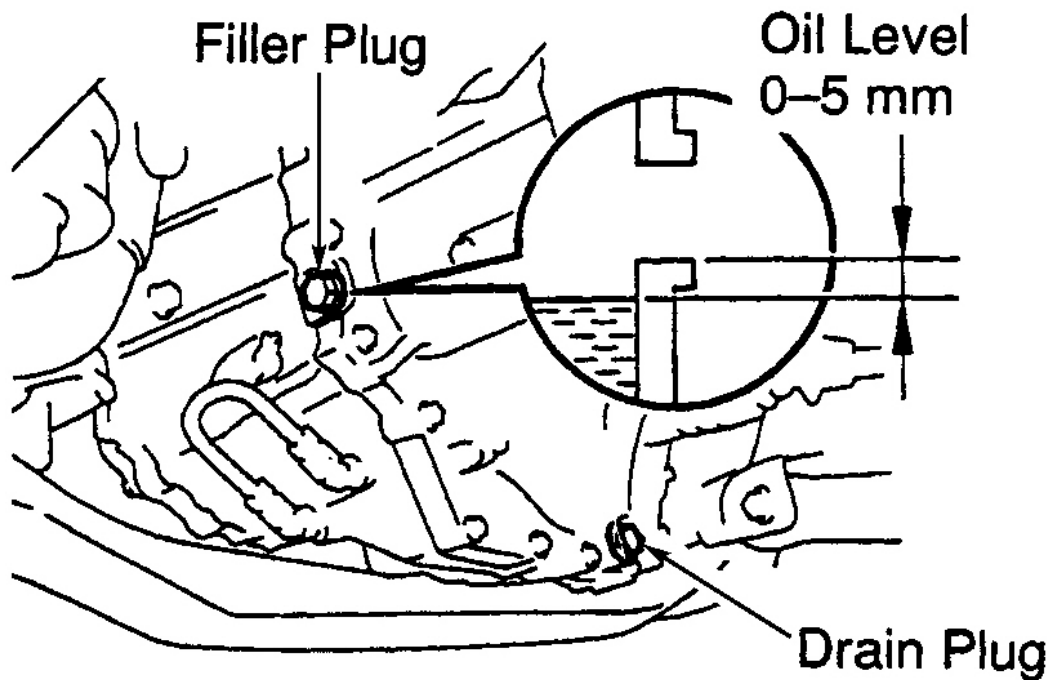
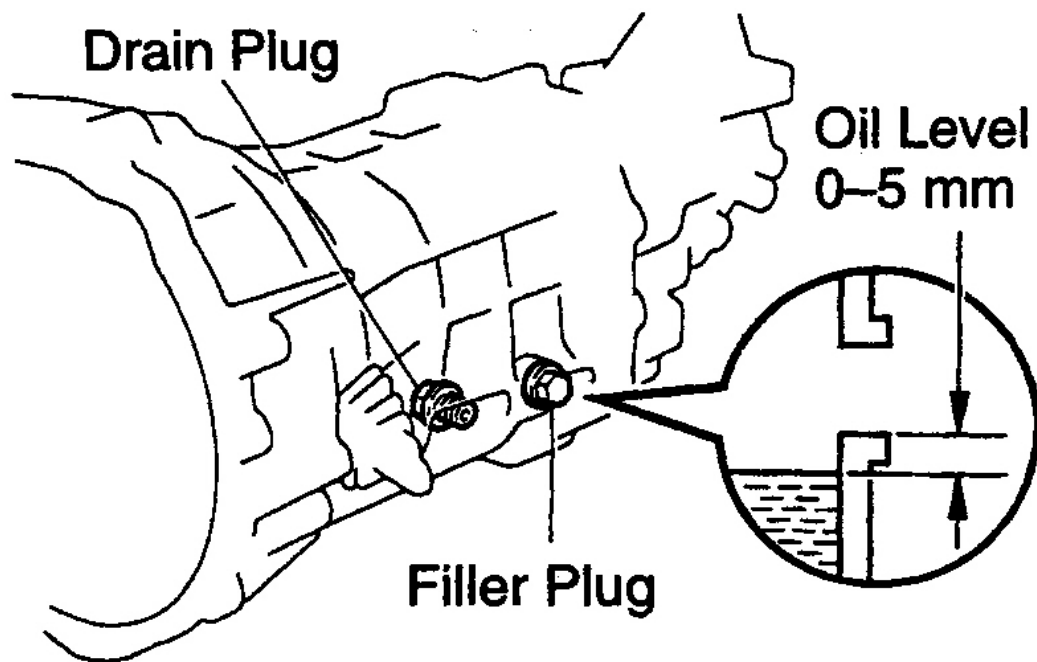


Fig. 1: Checking Transaxle Fluid (Camry, Celica, Corolla, RAV4 - 2WD & Solara)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.



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Fig. 2: Checking Transaxle Fluid Level (RAV4 - AWD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

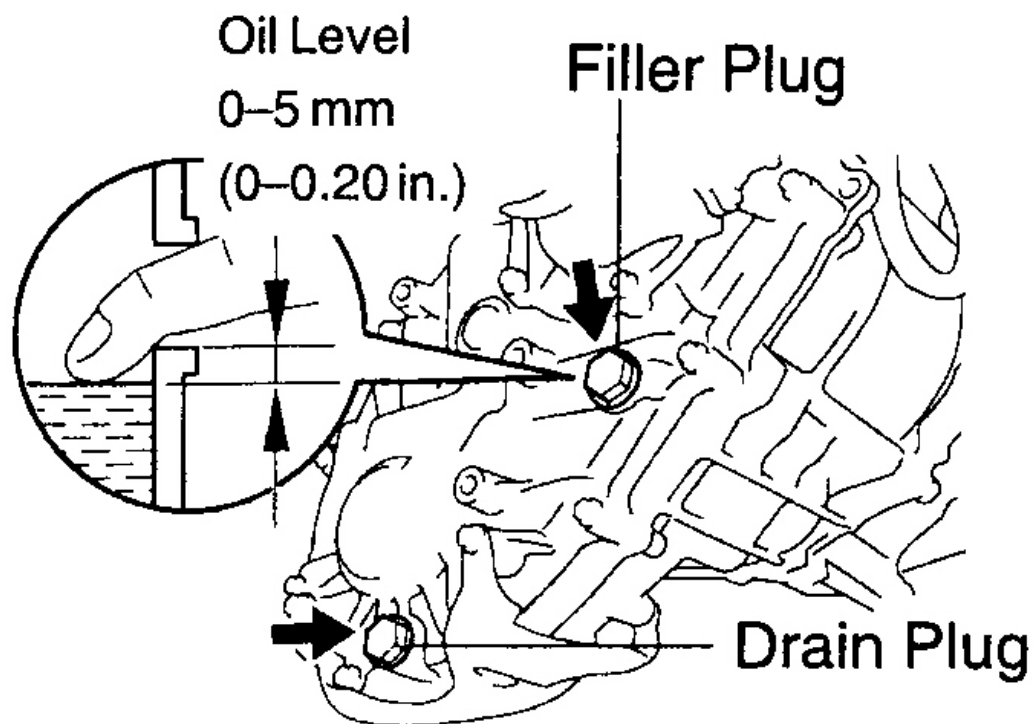


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Fig. 3: Checking Transmission Fluid Level (Tacoma & Tundra)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Transfer Case (RAV4, Tacoma & Tundra)

Raise and support the vehicle. Ensure vehicle is level. Remove fill plug located on rear of transfer case. See **Fig. 4** . Fluid should be level with bottom edge of fill plug hole. If fluid is low, fill with appropriate fluid until fluid is level with fill plug opening. See **RECOMMENDED FLUIDS** . Reinstall fill plug.



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Fig. 4: Checking Transfer Case Fluid Level
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

RECOMMENDED FLUIDS

RECOMMENDED FLUIDS

Application	Fluid Type
Transaxle/Transmission	SAE 75W-90/API GL-5 Gear Oil
Transfer Case	SAE 75W-90/API GL-5 Gear Oil

FLUID CAPACITIES

TRANSAXLE/TRANSMISSION REFILL CAPACITIES

Application	Qts. (L)
Camry & Solara	
2.4L 4-Cylinder	2.7 (2.5)
3.0L V6	4.4 (4.2)

Celica	
5-Speed	2.0 (1.9)
6-Speed	2.4 (2.3)
Corolla	
ECHO	2.0 (1.9)
RAV4	
2WD	2.6 (2.5)
4WD	3.6 (3.4)
Tacoma	
RWD	2.7 (2.6)
4WD	
2.7L 4-Cylinder	2.6 (2.5)
3.4L V6	2.3 (2.2)
Tundra	
2WD	2.7 (2.6)
4WD	2.3 (2.2)

TRANSFER CASE REFILL CAPACITIES

Application	Qts. (L)
RAV4	.95 (.9)
Tacoma & Tundra	1.1 (1.0)

DRAINING & REFILLING

Except Tacoma & Tundra

Raise and support vehicle. Clean area around drain and fill plugs of any dirt or debris. Remove drain plug and drain fluid into a suitable container. Install a NEW gasket on drain plug and install. Tighten to specification. See **TORQUE SPECIFICATIONS** .

Remove fill plug. See **Fig. 1 -Fig. 2** . Fill transaxle to capacity with appropriate fluid. See **RECOMMENDED FLUIDS** . Install fill plug with a NEW gasket and tighten to specification. See **TORQUE SPECIFICATIONS** .

Tacoma & Tundra

Raise and support vehicle. Clean area around drain and fill plugs of any dirt or debris. Remove drain plug and drain fluid into a suitable container. Install a NEW gasket on drain plug and install. Tighten to specification. See **TORQUE SPECIFICATIONS** .

Remove fill plug. See **Fig. 3** . Fill transmission to capacity with appropriate fluid. See **RECOMMENDED FLUIDS** . Install fill plug with a NEW gasket and tighten to specification. See **TORQUE SPECIFICATIONS** .

ADJUSTMENTS

WARNING: Vehicle is equipped with Supplemental Inflatable Restraint (SIR) system. When servicing vehicle, use care to avoid accidental air bag deployment. SIR system-related components are located in various locations throughout interior and exterior of vehicle, depending on application. Do not use electrical test equipment on or near these circuits. If necessary, deactivate SIR system before servicing components. See AIR BAG DEACTIVATION PROCEDURES article in GENERAL INFORMATION.

SHIFT CONTROL CABLE

NOTE: Manufacturer does not provide shift control cable adjustment procedures.

REMOVAL & INSTALLATION

WARNING: Vehicle is equipped with Supplemental Inflatable Restraint (SIR) system. When servicing vehicle, use care to avoid accidental air bag deployment. SIR system-related components are located in various locations throughout interior and exterior of vehicle, depending on application. Do not use electrical test equipment on or near these circuits. If necessary, deactivate SIR system before servicing components. See AIR BAG DEACTIVATION PROCEDURES article in GENERAL INFORMATION.

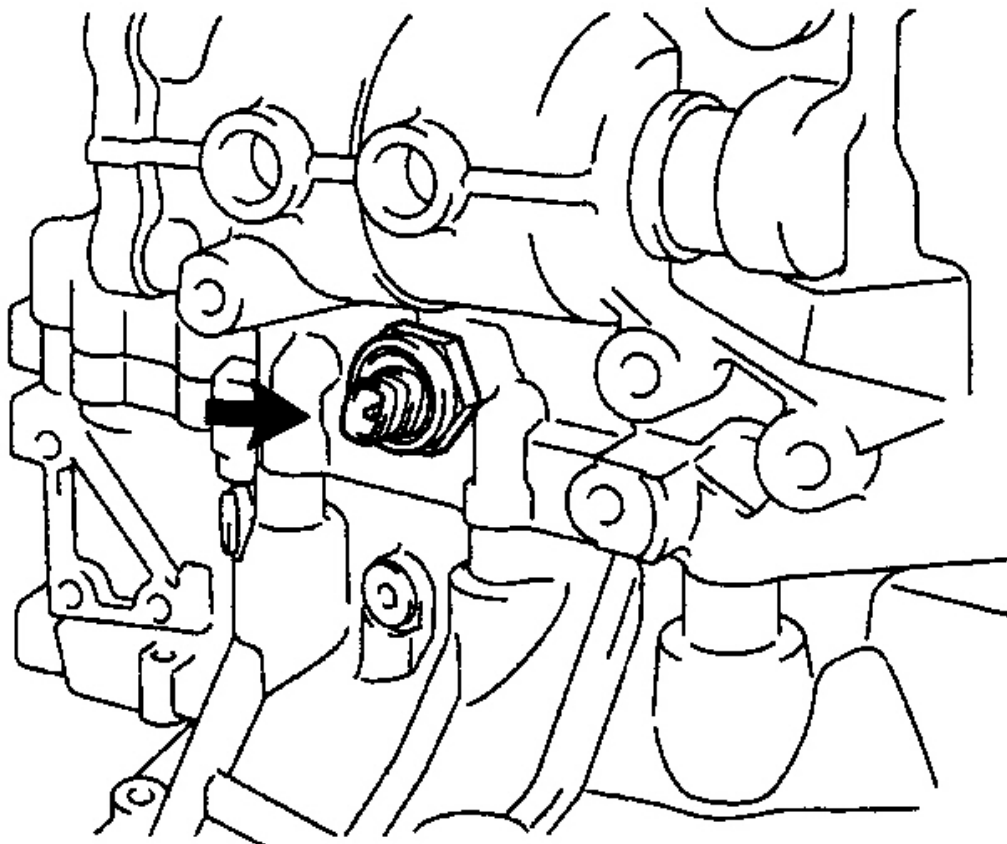
CAUTION: When battery is disconnected, vehicle computer and memory systems may lose memory data. Driveability problems may exist until computer systems have completed a relearn cycle. See COMPUTER RELEARN PROCEDURES article in GENERAL INFORMATION before disconnecting battery.

BACK-UP LIGHT SWITCH

Removal & Installation (Camry & Solara)

Raise and support vehicle. Disconnect the wiring harness connector. Remove back-up light switch. See **Fig. 5**.

Install back-up light switch into transaxle case. Install wiring harness connector. Lower vehicle and test switch operation.



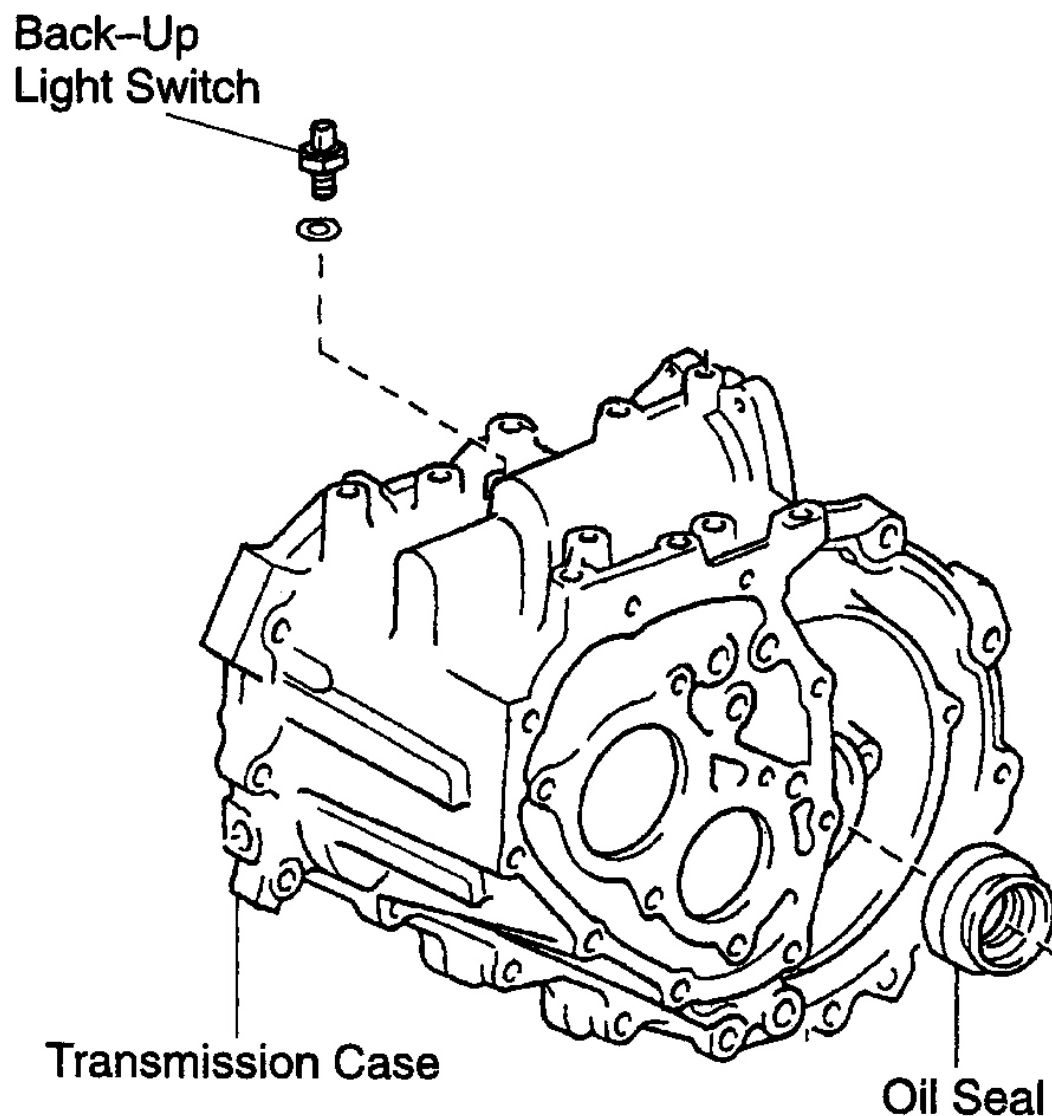
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Fig. 5: Removing & Installing Back-Up Light Switch (Camry & Solara)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Removal & Installation (Celica)

Raise and support vehicle. Disconnect the wiring harness connector. Remove back-up light switch. See **Fig. 6** .

Install back-up light switch into transaxle case. Install wiring harness connector. Lower vehicle and test switch operation.



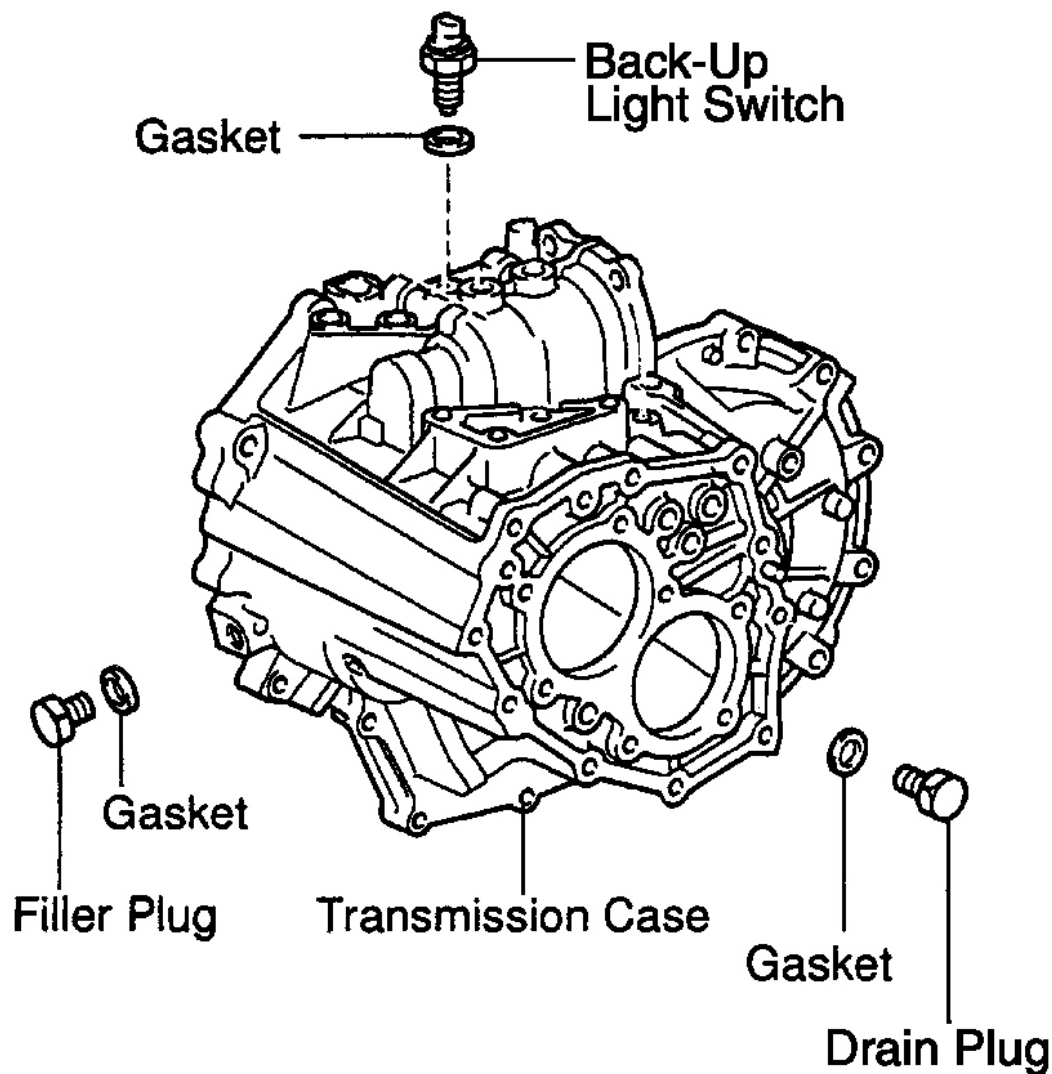
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Fig. 6: Removing & Installing Back-Up Light Switch (Celica)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Removal & Installation (RAV4)

Raise and support vehicle. Disconnect the wiring harness connector. Remove back-up light switch. See **Fig. 7**.

Install back-up light switch into transaxle case. Install wiring harness connector. Lower vehicle and test switch operation.



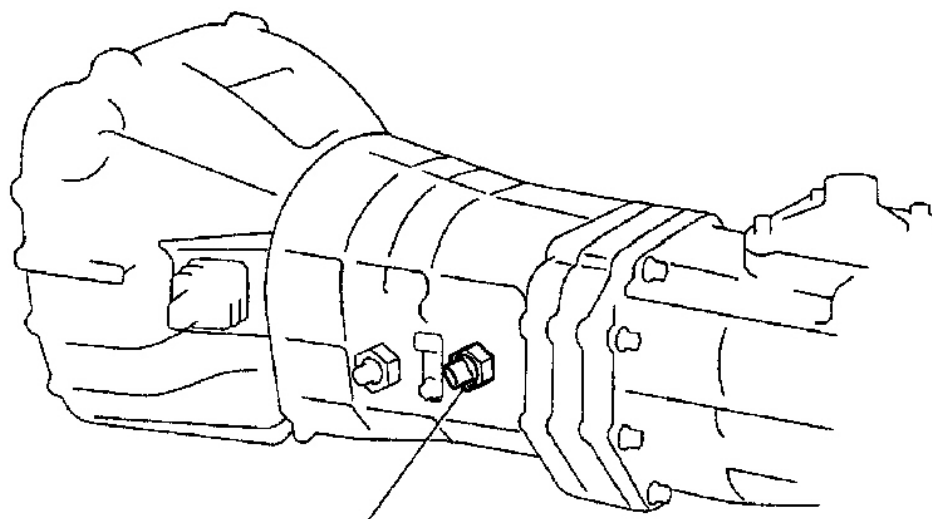
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Fig. 7: Removing & Installing Back-Up Light Switch (RAV4)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Removal & Installation (Tacoma & Tundra)

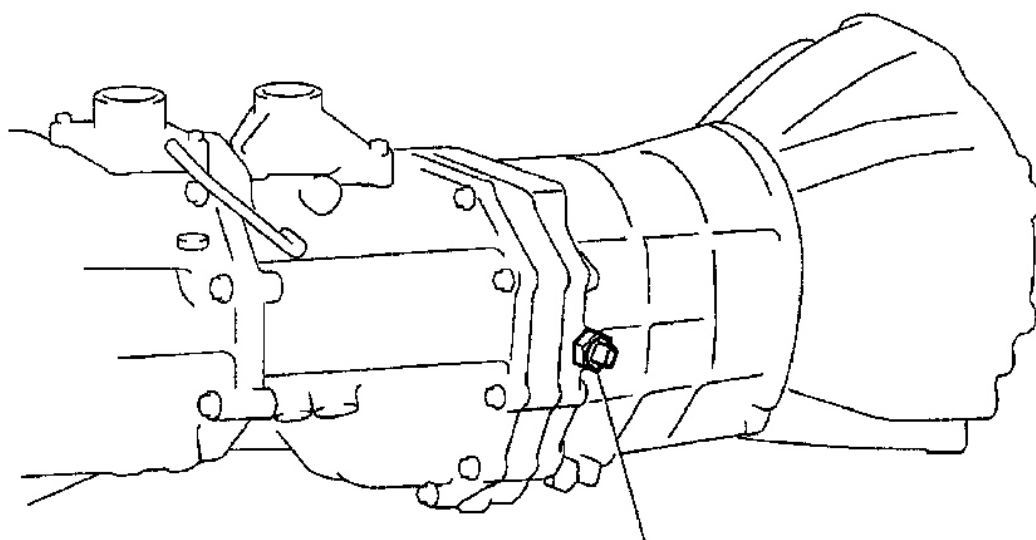
Raise and support vehicle. Disconnect the wiring harness connector. Remove back-up light switch. See **Fig. 8**.

Install back-up light switch into transmission case. Install wiring harness connector. Lower vehicle and test switch operation.



Back-Up Light Switch

W59 MODEL



Back-Up Light Switch

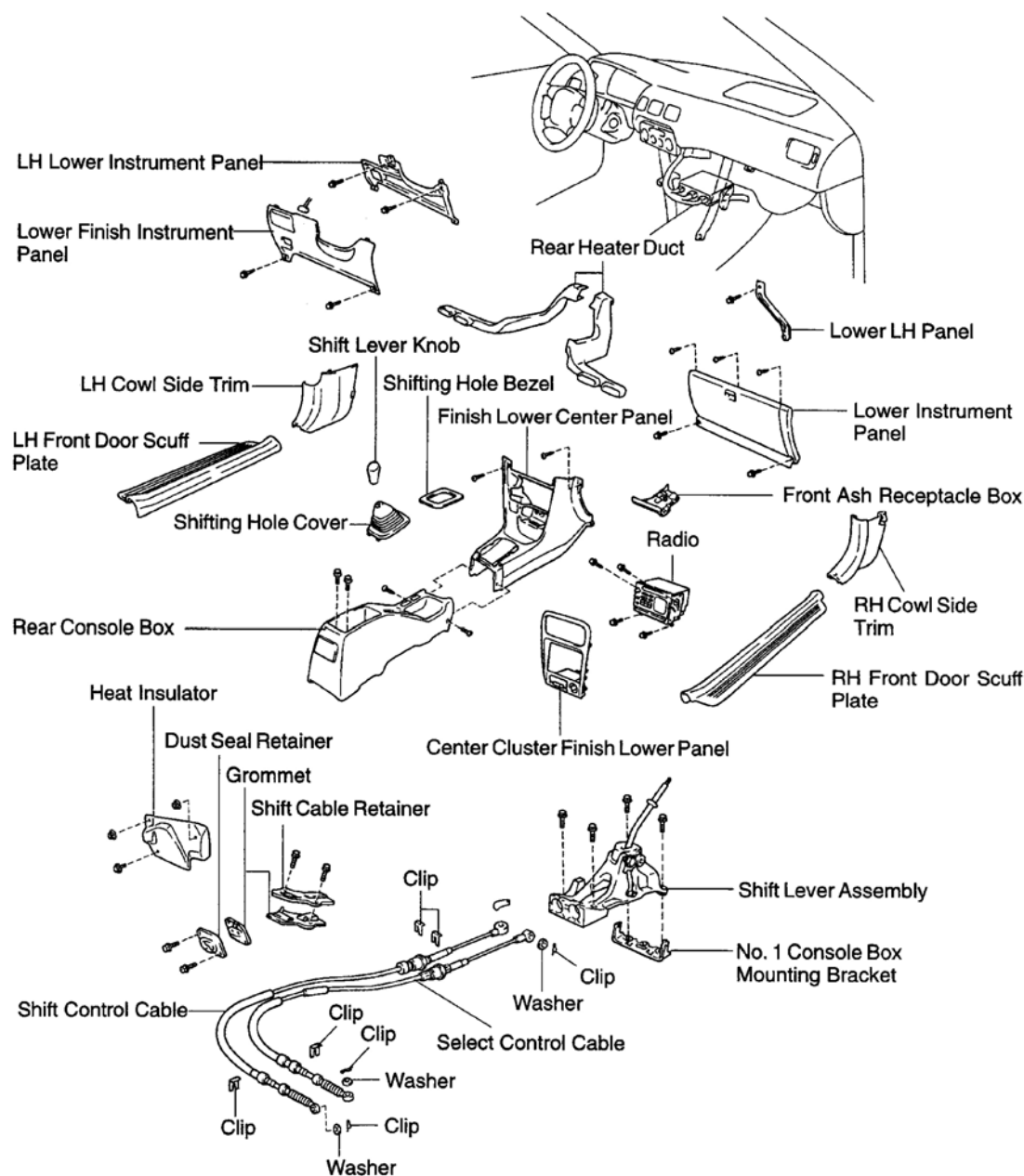
R150F & R150 MODELS

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Fig. 8: Removing & Installing Back-Up Light Switch (Tacoma & Tundra)
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

SHIFT CONTROL CABLE

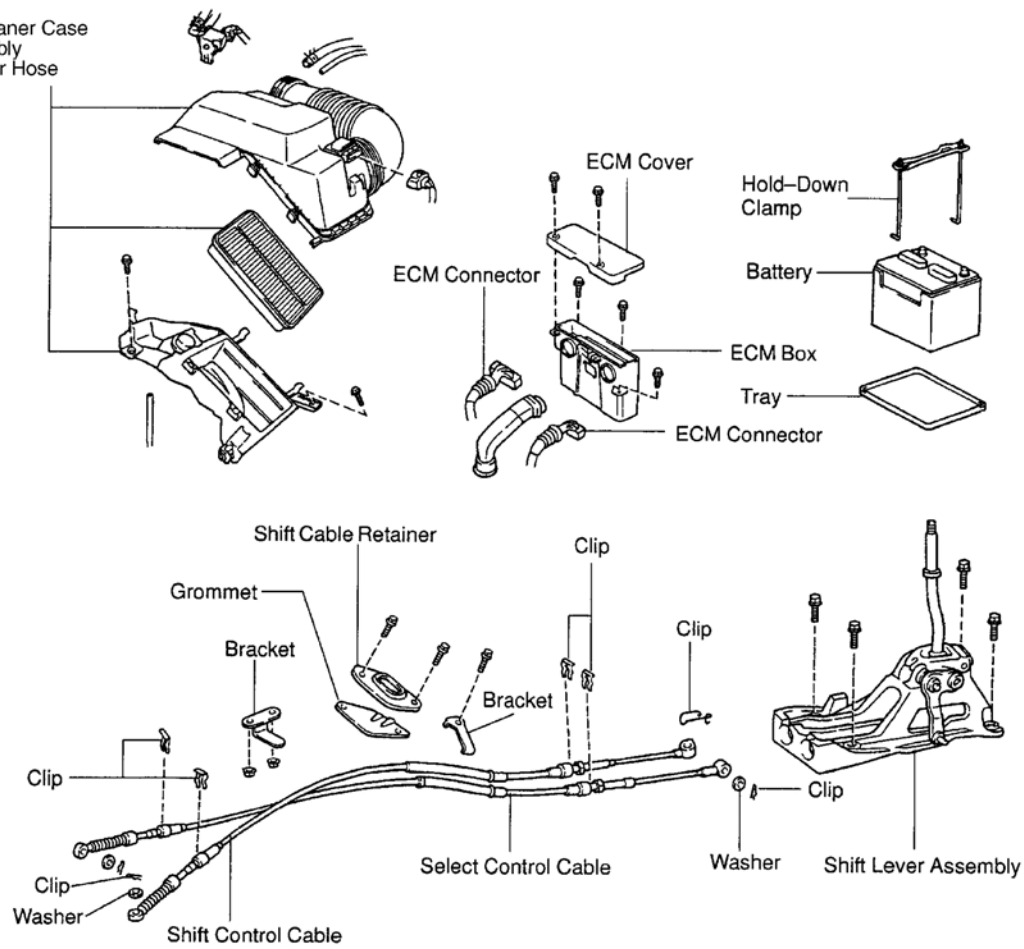
NOTE: Manufacturer does not provide removal and installation procedure of shift control cable. Only an exploded view is given. See Fig. 9 -Fig. 13 .



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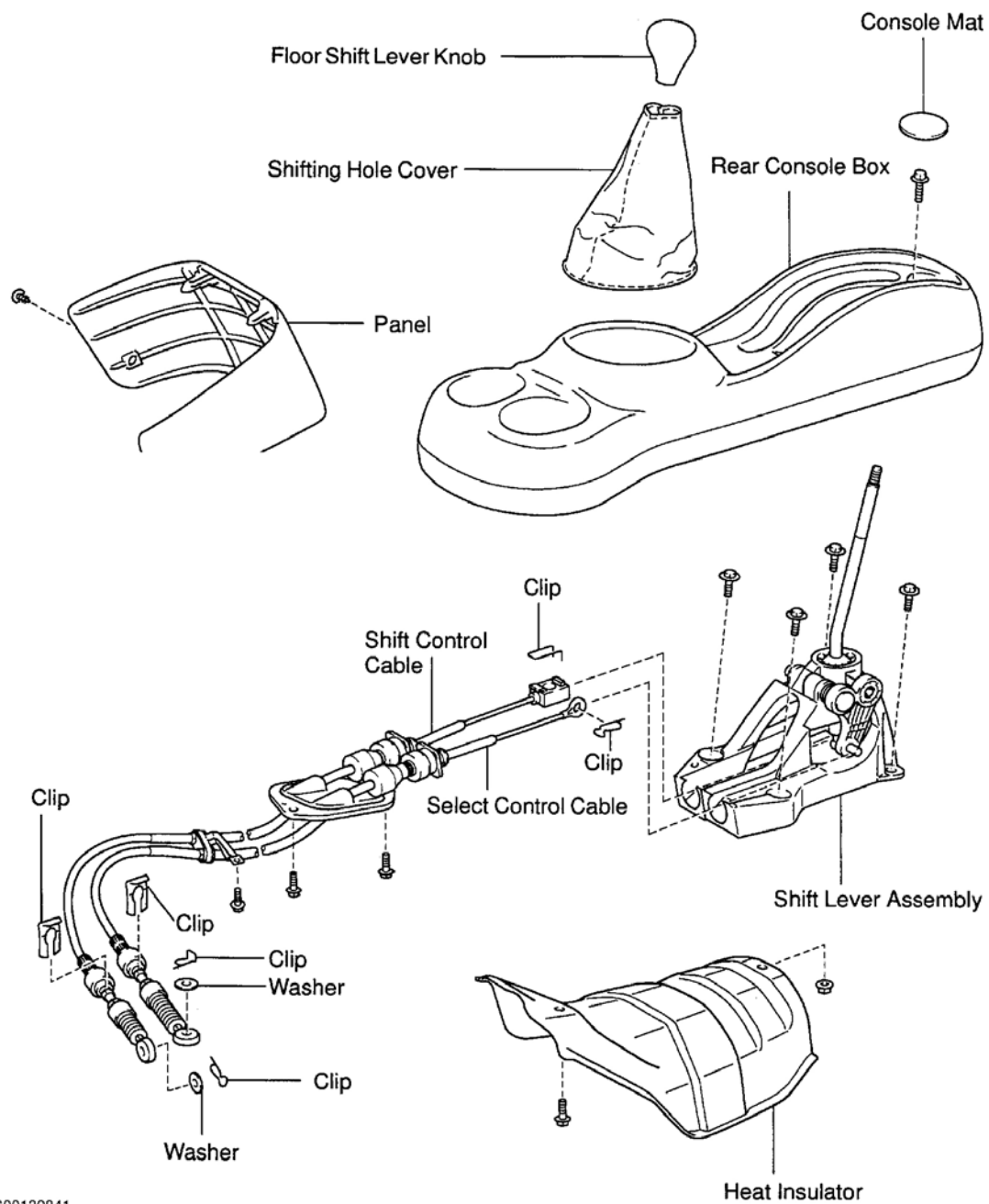
Fig. 9: Exploded View Of Shift Cables & Related Components (Camry & Corolla)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Air Cleaner Case
Assembly
With Air Hose



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Fig. 10: Exploded View Of Shift Cables & Related Components (Celica)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.



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Fig. 11: Exploded View Of Shift Cables & Related Components (ECHO)
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

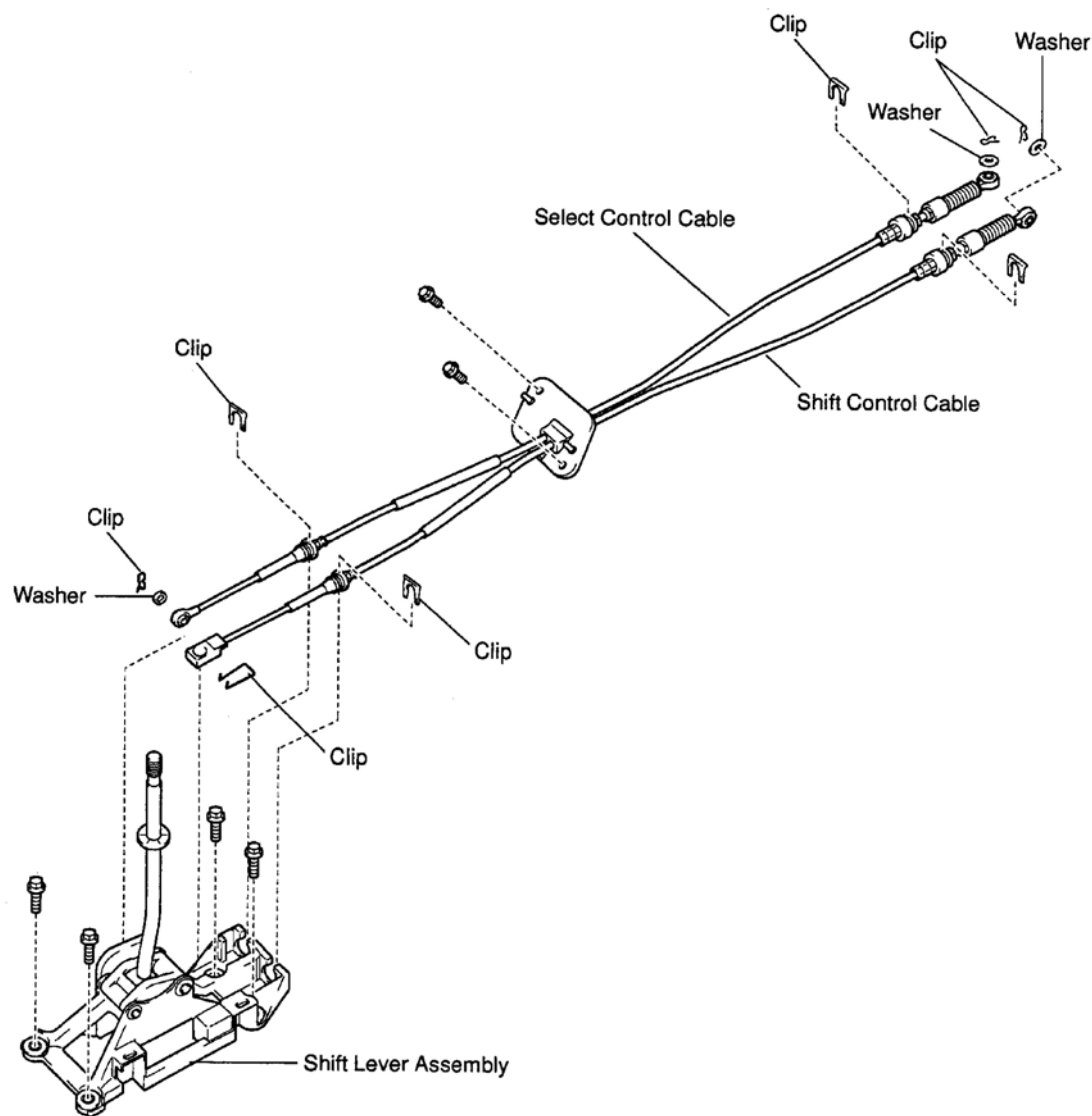


Fig. 13: Exploded View Of Shift Cables & Related Components (RAV4)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

VEHICLE SPEED SENSOR

NOTE: Manufacturer does not provide removal and installation procedures for Camry.

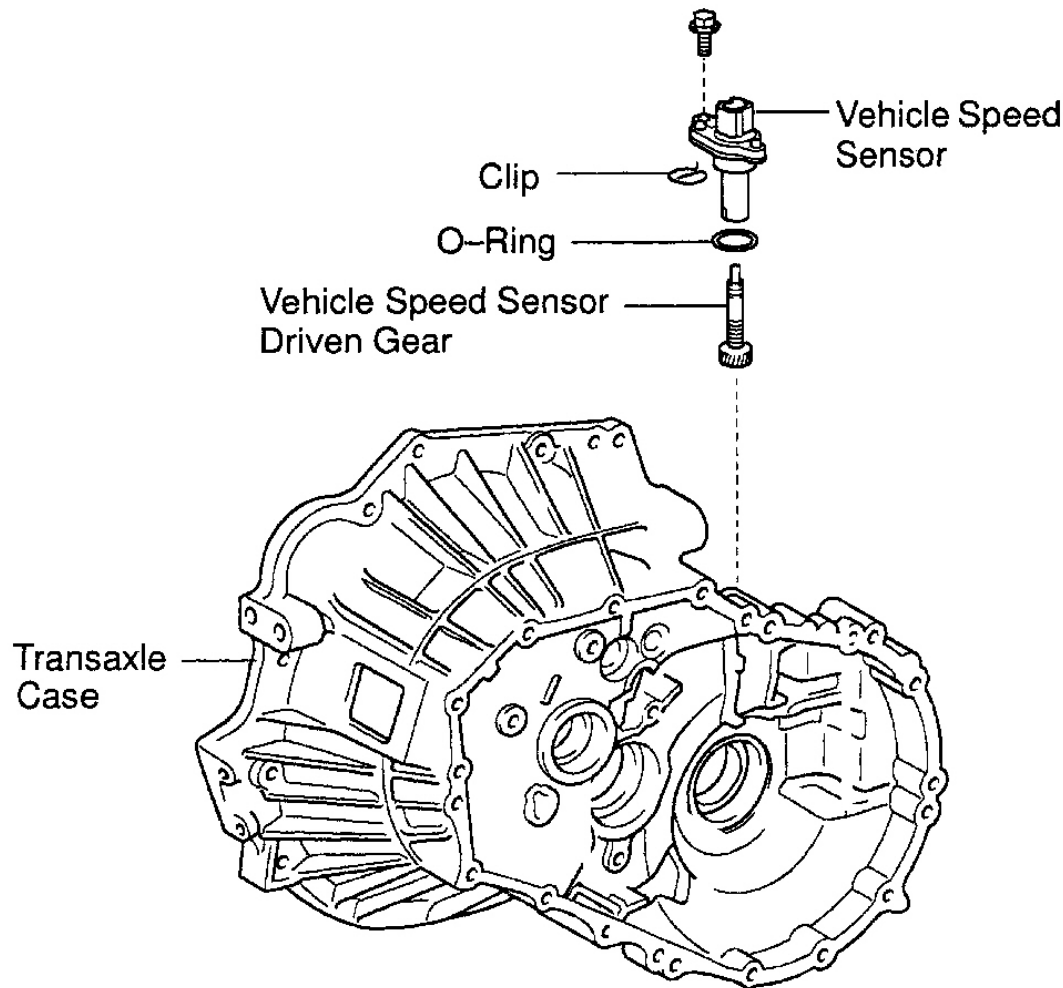
NOTE: Vehicle speed sensor is also referred to as VSS assembly.

Removal & Installation

1. Raise and support vehicle. Remove engine under covers or splash shield, if equipped. Disconnect VSS

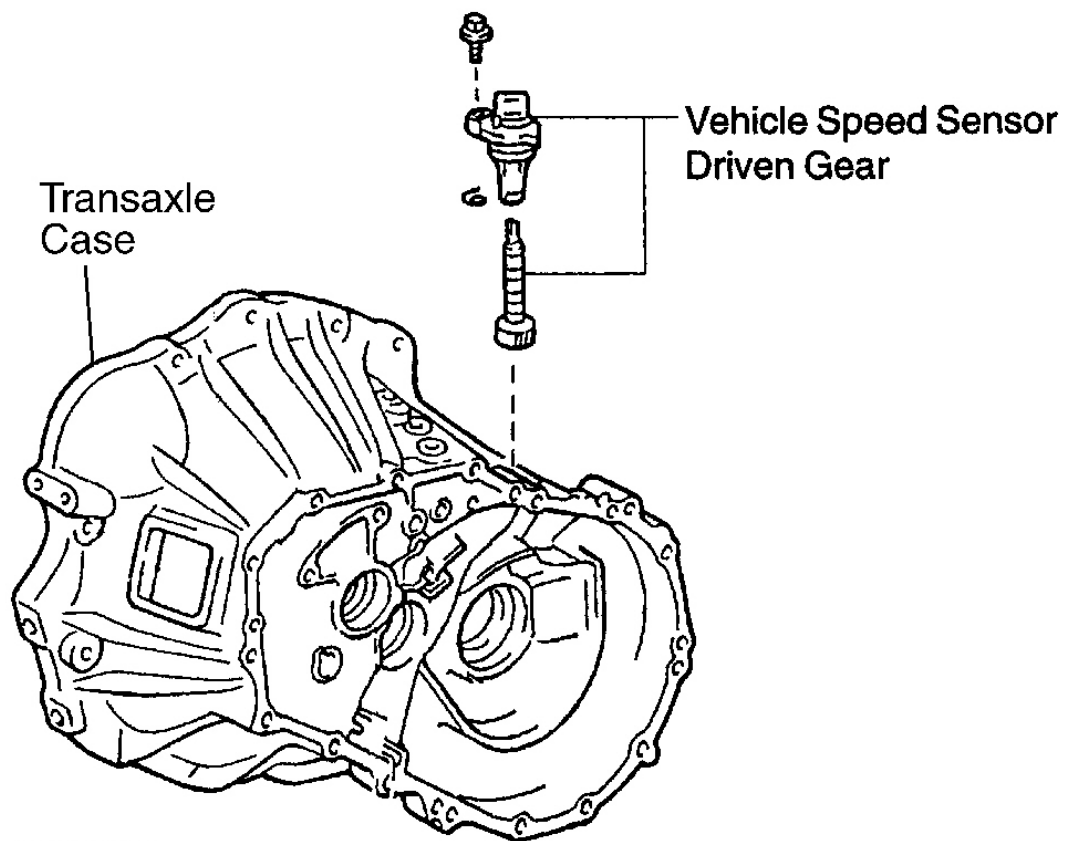
wiring harness connector. Remove bolt and remove VSS assembly. See **Fig. 14 -Fig. 17** . Remove and discard "O" ring.

2. To install, place NEW "O" ring on VSS and install assembly into transaxle. Install bolt and tighten to specification. See **TORQUE SPECIFICATIONS** . Connect the wiring harness connector. Install engine under covers and/or splash shield, if removed.



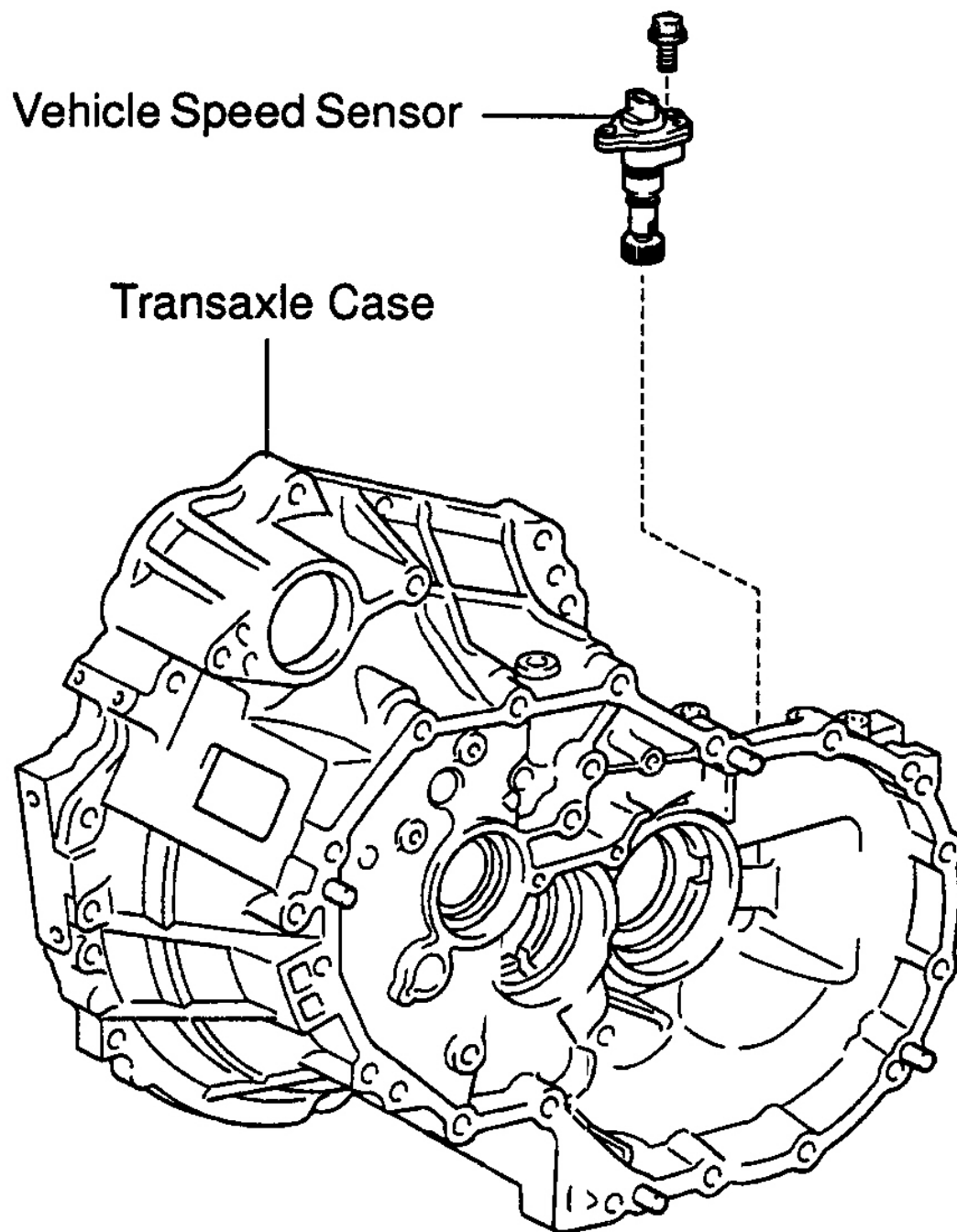
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Fig. 14: Removing & Installing Vehicle Speed Sensor (Celica & Solara)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.



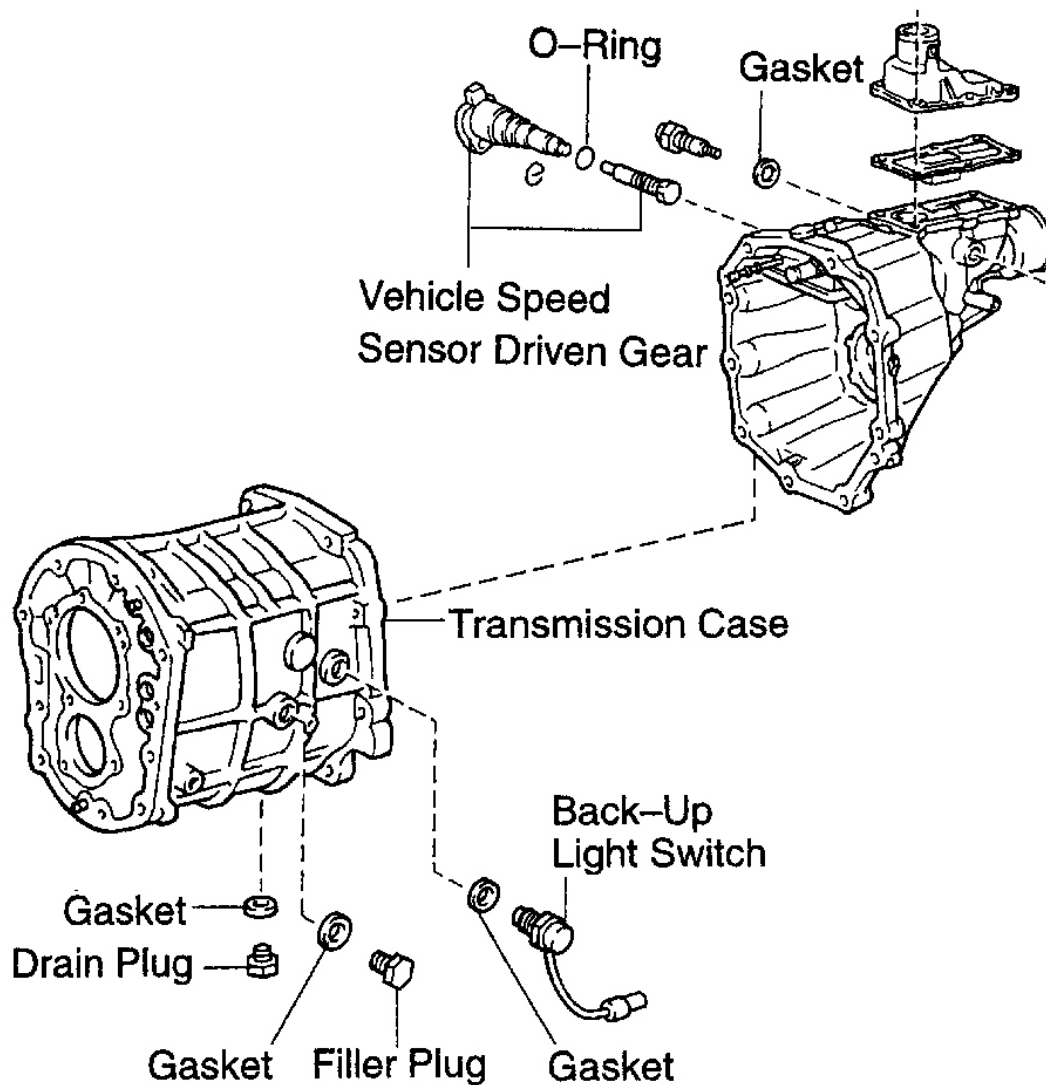
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Fig. 15: Removing & Installing Vehicle Speed Sensor (Corolla & ECHO)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.



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Fig. 16: Removing & Installing Vehicle Sensor (RAV4)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.



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Fig. 17: Removing & Installing Vehicle Speed Sensor (Tacoma & Tundra)
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Back-Up Light Switch	
Except Tacoma & Tundra	30 (40)

Tacoma	
W59	30 (40)
R150	32 (44)
R150F	32 (44)
Tundra	32 (44)
Transaxle/Transmission Drain & Fill Plug	
Camry	36 (49)
Celica	29 (39)
Corolla	29 (39)
ECHO	29 (39)
RAV4	36 (49)
Solara	36 (49)
Tacoma	27 (37)
Tundra	27 (37)
INCH Lbs. (N.m)	
Vehicle Speed Sensor	
Celica	97 (11)
Corolla	97 (11)
ECHO	97 (11)
RAV4	150 (17)
Solara	
E153	150 (17)
E351	49 (5.5)
Tacoma	97 (11)
Tundra	97 (11)