1970-71 SUBARU

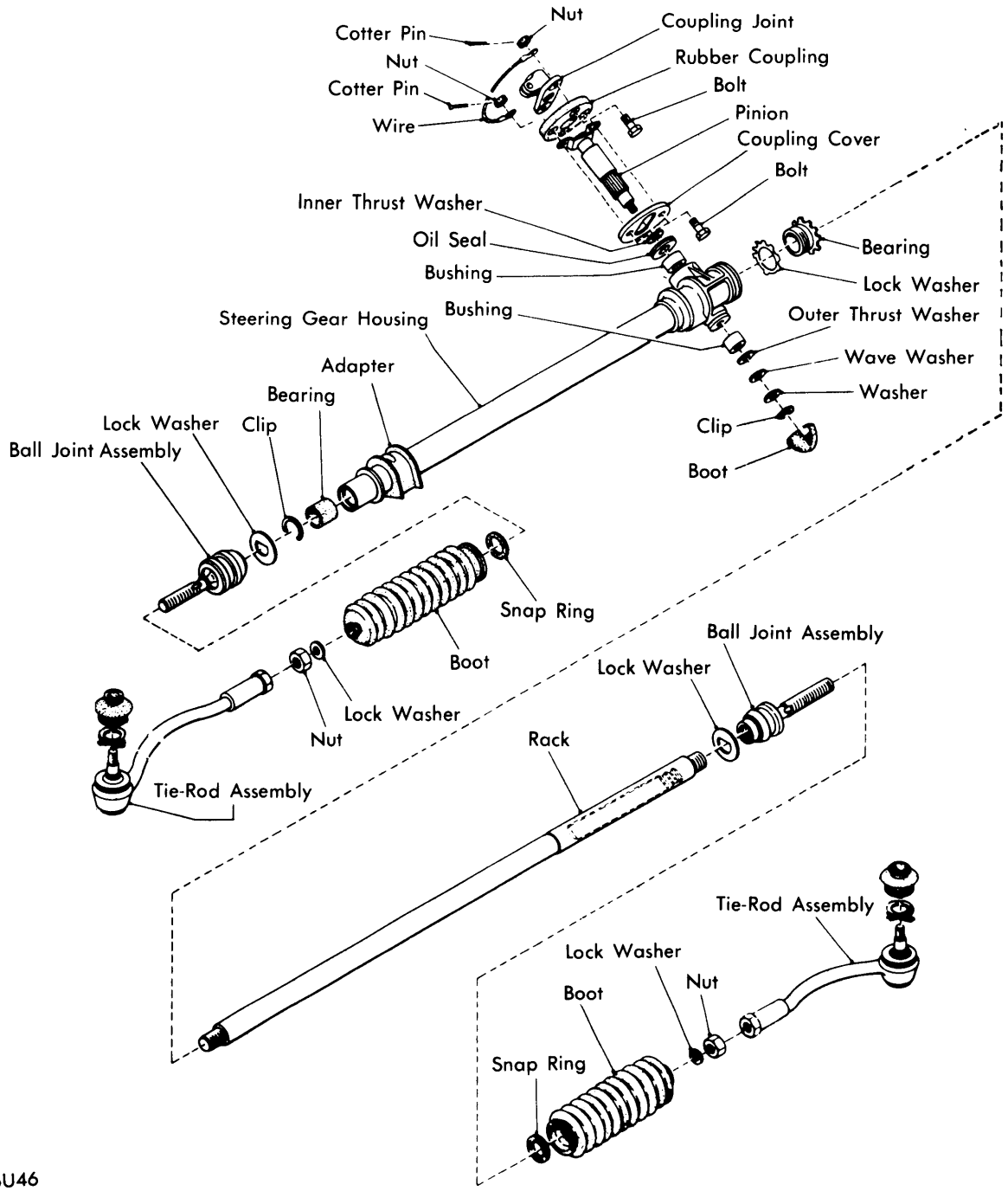
Subaru 1100 (1970-71)
Subaru 1300 (1971)

DESCRIPTION

Steering gear, mounted on crossmember, is a rack and pinion type. Pinion is connected to steering column shaft by a flexible rubber coupling. Steering knuckle arms are connected to rack by tie rods which are threaded onto ball joint studs at each end of rack.

Reassembly – 1) Press bearing (resinous nylon) into end of tube at right side and retain with clip. Install lock washer (align with groove in housing), then screw in eccentric bushing. After bushing has been fully entered, align bushing groove with gear housing groove and temporarily tighten. Install pinion inner thrust washer. Install rack into gear housing, then install pinion. Install outer thrust washer on pinion, retain with castellated nut and cotter pin, then install rubber boot.

2) Tighten eccentric bushing until backlash between rack and pinion has been eliminated. Backlash should be below .0039" (0.10 mm). *CAUTION – Be careful not to over-tighten the*



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STEERING GEAR ASSEMBLY

1970-71 SUBARU (Cont.)

eccentric bushing. If backlash exceeds specification, replace eccentric bushing. When adjustment is correct, bend lock washer over to secure bushing in place.

REMOVAL & INSTALLATION

Removal – Raise front of vehicle and remove wheels. Remove bolts connecting pinion flange to flexible rubber steering coupler. Disconnect tie rod ends from steering knuckles. Remove gear assembly mounting bolts (lock wired), then remove gear assembly from crossmember.

Installation – 1) Install gear assembly on crossmember, then install and tighten mounting bolts (secure bolts with lock wires). Install tie rod ends in steering knuckles, tighten castellated nuts and secure with cotter pins. Align holes of flexible rubber steering coupling with pinion flange, install bolts and tighten castellated nuts (secure with cotter pins). Install front wheels and lower vehicle.

2) Match the white paint marks on lower surface of gear assembly and pinion to center rack, then adjust toe-in. Tighten tie rod lock nuts after toe-in has been adjusted and secure by bending lock washers over nuts. Check to ensure that white paint marks on gear housing and pinion are still in alignment with wheels set in straight-ahead position.

OVERHAUL

Disassembly – 1) Mark tie rods (left and right) for reassembly reference, then remove tie rods, lock nuts, and lock washers from ball joint studs. Remove retainer rings and rubber boots from each side. Straighten lock washers and remove ball joints from each end of rack.

2) Remove boot and castellated nut from end of pinion. Remove pinion, then remove rack from housing. Straighten lock washer on left side of housing and remove threaded eccentric bushing. Remove clip and bearing (made of resinous nylon material) from end of tube at right side.

Inspection – Clean all parts and inspect for wear or damage. If necessary, replace pinion bushings in gear housing. Ball joints should have little or no play. If worn, loose, or any doubt exists, replace joint.

3) Fill ball joints with grease, then install a lock washer and ball joint on each end of rack. Tighten ball joints and bend lock washer to retain joint. After both ball joints have been installed and locked, measure rack at both ends of gear housing to determine the neutral position of rack and pinion. When neutral position has been established, mark the gear housing and pinion with white paint so that marks will align for neutral position reference.

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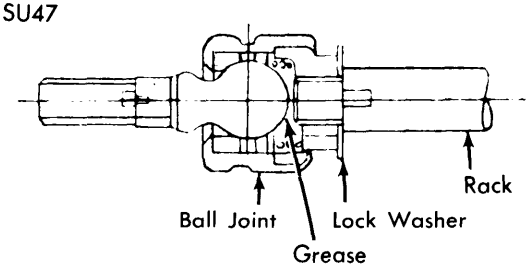

BALL JOINT ASSEMBLY

4) Install a rubber boot at each end of gear assembly and secure each boot with three retaining rings. Install lock nuts and lock washers on ball joint studs. Install left and right tie rods on ball joint studs and tighten lock nuts. Rotate pinion and check operation of gear assembly.

TIGHTENING SPECIFICATIONS

Application	Ft.Lbs.(Mkg)
Ball Joint-to-Rack	51-59 (7.0-8.0)
Gear Housing Mounting Bolts	33-40 (4.5-5.5)
Tie Rod End-to-Knuckle	①18-42 (2.5-5.8)
Tie Rod Lock Nut	58-65 (8.0-9.0)
Rubber Coupling Nut	①3.62 (0.5)

① – Tightening castellated nut to specified torque, then tighten additionally until cotter pin can be inserted.