

## TOYOTA HI-LUX

### Hi-Lux

#### DESCRIPTION

Independent front suspension with coil springs. Wheel is supported by steering knuckle mounted between upper and lower control arms by ball joints. Upper control arms pivot on shafts connected to frame. Lower control arms pivot on shafts connected to crossmember. Coil springs fit in pockets built into frame at top and in pockets built into lower control arms at bottom. Hydraulic shock absorbers mount between lower control arm and frame and are inside coil spring. A stabilizer bar is mounted to frame and connected at ends to lower control arms.

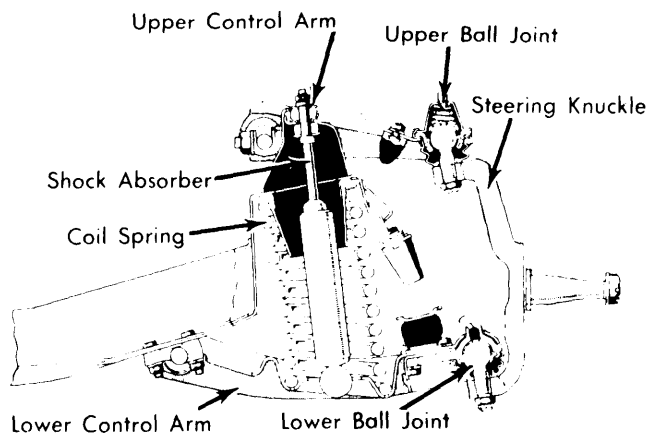


Fig. 1 Sectional View of Front Suspension Assembly

#### ADJUSTMENT

##### WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

See *Wheel Alignment Specifications & Procedures* in **WHEEL ALIGNMENT** Section.

##### WHEEL BEARING ADJUSTMENT

See *Wheel Bearing Adjustment* in **WHEEL ALIGNMENT** Section.

##### BALL JOINT CHECKING

See *Ball Joint Checking* in **WHEEL ALIGNMENT** Section.

#### REMOVAL & INSTALLATION

##### SHOCK ABSORBERS

**Removal** — Raise vehicle and place on jack stands under frame. Remove wheel and tire. Remove nuts from upper shock absorber stem. Remove bolts securing shock absorber lower mount to lower control arm.

**Installation** — To install, reverse removal procedure. Tighten all nuts and bolts.

##### UPPER CONTROL ARM & BALL JOINT

**Removal** — Raise vehicle by placing jack under lower control arm. Place safety stands under frame and leave jack in place. Remove wheel and tire. Remove cotter pin and nut from upper ball joint stud. Using a suitable puller (09628-62010) separate ball joint from steering knuckle. Remove bolts securing upper control arm mount, noting size and number of shims between pivot shaft and mount. Remove control arm from vehicle. Remove bolts securing ball joint to control arm, and remove ball joint. Unscrew pivot shaft bushings and remove bushings and shaft.

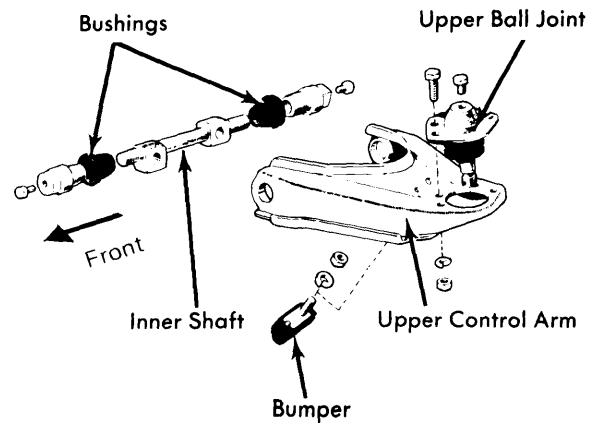


Fig. 2 Exploded View of Upper Control Arm Assembly

**Installation** — Inspect all components for wear or distortion. Install pivot shaft with offset mounting hole to front. Reverse removal procedure for installation making sure wheel alignment shims are installed in correct position. Tighten all bolts and nuts to specifications. Check wheel alignment.

##### LOWER CONTROL ARM, COIL SPRING & BALL JOINT

**Removal** — 1) Raise vehicle by jacking up under lower control arm. Place jack stands under frame and leave jack in place. Remove wheel and tire. Disconnect stabilizer bar from control arm. Remove cotter pin and nut from tie rod end stud and using a puller separate tie rod from steering arm. Remove shock absorber as previously outlined.

2) Remove cotter pin and nut from lower ball joint stud and using a puller, separate ball joint from steering knuckle. Lower jack slowly and remove coil spring and insulator. Remove bolts securing control arm to crossmember and remove control arm from vehicle. Secure control arm in a vise and remove ball joint from control arm. Remove bushings from both ends of pivot shaft and remove shaft.

**Installation** — 1) Install pivot shaft in control arm. Install bushings and tighten alternately and evenly. Install ball joint in control arm. Install control arm and tighten pivot shaft bolts. Install coil spring insulator in pocket.

2) Install a coil spring compressor on coil. Collapse coil spring until control arm can be connected to steering knuckle with coil spring in vehicle. With ball joint stud installed in steering knuckle, tighten nut.

# Front Suspension

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3) Connect stabilizer bar to control arm. Connect tie rod end to steering arm and tighten nut. Install wheel and tire, lower vehicle and grease lower control arm bushings. Check front wheel alignment.

### STEERING KNUCKLE

**Removal** – 1) Raise vehicle and place jack stands under frame. Remove wheel and tire. Remove brake system components from steering knuckle. *NOTE* – See appropriate information in BRAKE SYSTEMS Section for removal. Jack up under control arm to release spring tension from lower arm.

2) Remove cotter pin and nut from lower ball joint stud and using a suitable puller separate ball joint from steering knuckle. Separate upper ball joint from steering knuckle in same manner. Lower jack and remove steering knuckle.

**Installation** – To install, reverse removal procedure. Check wheel alignment.

### FRONT SUSPENSION CROSSMEMBER

**Removal** – 1) Raise front of vehicle and support with jack stands. Remove front wheels. Disconnect tie rod ends from both steering knuckles. Disconnect each end of stabilizer bar from suspension lower arms. Remove engine compartment hood.

2) Disconnect brake system components from steering knuckle. *NOTE* – See BRAKE SYSTEMS Section for removal procedure. Remove bolts retaining front engine mounts. Separate brake line from crossmember. Support engine from overhead. Support front crossmember with jack. Remove four bolts from front suspension crossmember and slide from vehicle.

**Installation** – To install, reverse removal procedure and tighten all nuts and bolts.

### TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. ( mkg)
Lower Ball Joint-to- Steering Knuckle .....	87-123 (12.0-17.0)
Upper Ball Joint-to- Steering Knuckle .....	65-94 (9.0-13.0)
Tie Rod Ends-to-Steering Knuckles.....	54-80 (7.5-11.1)
Upper Ball Joint .....	14-22 (1.9-3.0)
Lower Ball Joint .....	22-29 (3.0-4.0)
Inner Control Arm Shaft.....	32-43 (4.4-6.0)
Upper Control Arm Bushing .....	160-180 (22.1-24.9)