

Front Suspension

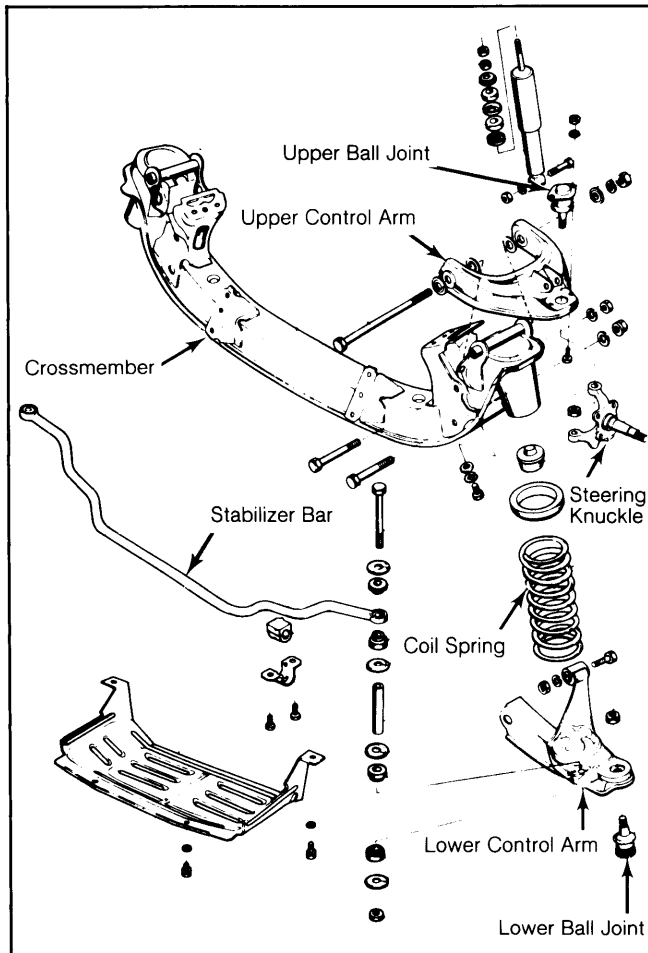
ISUZU I-MARK

DESCRIPTION

I-Mark uses independent type front suspension consisting of upper and lower control arms with steering knuckle mounted between control arms by means of ball joints. Upper control arm pivots on shaft bolt through crossmember, lower arm pivots on shaft bolts (2) through crossmember and frame.

A coil spring is mounted between lower control arm and crossmember. Shock absorber is hydraulic, double-action type mounted between upper control arm and inner fender panel. A stabilizer bar is used to enhance stability and riding comfort.

Fig. 1: Exploded View of I-Mark Front Suspension



ADJUSTMENT

WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

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

WHEEL BEARING

1) Raise vehicle and support with safety stands. Remove grease cap and cotter pin. Loosen spindle nut. Tighten spindle nut to 22 ft. lbs. (30 N.m) while rotating wheel to seat bearings.

2) Back off nut completely and tighten hand tight. Install new cotter pin. Tighten nut as needed to align slot in nut with hole in spindle.

BALL JOINT CHECKING

Check ball joints for excessive movement or play. If axial play of lower ball joint exceeds .040" (1.0 mm) it should be replaced.

REMOVAL & INSTALLATION

WHEEL BEARING

Wheel bearing removal procedure not available from manufacturer.

BALL JOINT

Removal (Upper)

1) Raise vehicle and support with safety stands. Remove wheel assembly. Remove caliper and support out of the way. Remove lower shock absorber bolt and push shock up.

2) Place floor jack under lower control arm and raise arm until level. Loosen upper ball joint nut until nut is flush with top of ball joint stud.

3) Using ball joint removal/installer tool (J-26407), disconnect upper ball joint from steering knuckle. Remove bolts connecting ball joint to control arm and remove ball joint.

Installation

To install, reverse removal procedures. Install upper ball joint in control arm so that the cut-off portion is facing outward.

Removal (Lower)

1) Raise vehicle and support with safety stands. Remove wheel assembly. Remove tie rod end cotter pin and lock nut. Using removal tool (J-21687), disconnect tie rod end from steering knuckle.

2) Remove stabilizer bar bolt and grommet assembly from lower control arm. Remove upper brake caliper bolt and slide hose retainer clip back. Remove lower shock absorber bolt and push shock up.

CAUTION: Secure safety chain around upper and lower control arms to prevent spring from coming out, causing possible injury.

3) Place floor jack under outer end of lower control arm and raise lower control arm until level. Using removal/installer tool (J-26407), disconnect lower ball joint from steering knuckle.

4) Remove hub assembly and steering knuckle from lower ball joint and support out of the way. Remove lower ball joint from control arm using removal/installer tool (J-9519-8).

Installation

To install, reverse removal procedures.

SHOCK ABSORBER

Removal

Raise vehicle and support with safety stands. Remove wheel assembly. Remove lower shock absorber retaining bolt from upper control arm. Remove upper retaining nut from inside engine compartment and remove shock absorber.

ISUZU I-MARK (Cont.)

Installation

To install, reverse removal procedures.

STEERING KNUCKLE

Removal

1) Raise vehicle and support with safety stands. Remove wheel assembly. Remove lower shock absorber attaching bolt and push shock up. Remove brake caliper and support out of the way.

2) Press tie rod end ball joint from steering knuckle. Remove grease cap, cotter pin, hub nut and washer. Remove wheel hub with rotor. Remove dust plate retaining bolts and remove dust plate from knuckle.

3) With floor jack positioned under outer end of lower control arm, raise arm until level and support. Loosen upper and lower ball joint nuts and force ball joints from knuckle. Remove steering knuckle.

Installation

To install, reverse removal procedures. Attach dust plate to knuckle before installing knuckle to ball joints.

LOWER CONTROL ARM

Removal

1) Raise vehicle and support with safety stands. Remove wheel assembly. Disconnect tie rod end from steering knuckle. Remove lower shock absorber bolt.

2) Disconnect stabilizer bar from lower control arm. Remove brake caliper and support out of the way. Place jack under outer end of lower control arm and lift until level.

CAUTION: Secure coil spring to upper control arm with safety chain to prevent accidental release of spring.

3) Loosen lower ball joint lock nut and force ball joint from knuckle. Remove hub, rotor and steering knuckle assembly. Press ball joint from control arm (if it is to be replaced).

4) Slowly lower jack supporting control arm and remove spring. Remove control arm pivot bolts and remove control arm.

Installation

To install, reverse removal procedures. Do not tighten control arm pivot bolts to specifications until installation is complete. When compressing spring, attach safety chain between spring and upper control arm.

UPPER CONTROL ARM

Removal

1) Raise vehicle and support with safety stands. Remove wheel assembly. Remove brake caliper and support out of the way. Remove lower shock absorber bolt and push shock up.

2) With floor jack positioned under outer end of lower control arm, raise arm until level and support. Loosen upper ball joint nut and disconnect ball joint from knuckle.

3) Remove bolts connecting ball joint to control arm and remove ball joint. Remove upper control arm pivot shaft bolt and remove arm.

Installation

1) To install, reverse removal procedures. When installing ball joint, be sure that the cut off side of mounting flange is towards outside of vehicle.

2) Do not tighten pivot shaft bolt to specification until installation is otherwise complete.

3) When installing control arm, make sure that the smaller washer is installed to the inside of the front arm and the larger washer is installed to the inside of the rear arm.

STABILIZER BAR

Removal

Raise vehicle and support with safety stands. Remove engine splash guard. Remove stabilizer bar bolt and grommet assemblies from lower control arms. Remove stabilizer support clamps from body and remove stabilizer bar.

Installation

To install, reverse removal procedures.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Upper Control Arm-to-Crossmember	47 (64)
Upper Control Arm-to-Ball Joint	29 (39)
Upper Ball Joint-to-Steering Knuckle	47 (64)
Lower Control Arm-to-Crossmember	47 (64)
Lower Control Arm-to-Ball Joint	58 (79)
Lower Ball Joint-to-Steering Knuckle	58 (79)
Tie Rod-to-Steering Knuckle	29 (39)
Shock Absorber-to-Control Arm	29 (39)
Brake Caliper-to-Steering Knuckle	36 (49)