**OVERVIEW**

AxleTech designed and manufactured a state-of-the-art modular drivetrain system that enables All Wheel Drive (AWD) commercial trucks to operate safely and productively. The system consists of a heavy-duty Independent Front Suspension (IFS) module equipped with modern steering geometry and air disc brakes technology, and a low profile shift-on-the-fly transfer case. The IFS, available as drive or non-drive, is part of the company’s field-proven and widely-acclaimed Independent Suspension Axle Systems (ISAS®). This bolt-on modular solution does not require modifying the vehicle’s existing frame rails, maintains vehicle ride height, and offers superior ride, handling, and safe controls.

**FEATURES AND BENEFITS**

**Proven Independent Suspension Axle System technology**

The ISAS® product line has been fitted on high-mobility vehicles for over 20 years. The Independent Front Suspension system leverages decades of expertise in designing and manufacturing field-proven systems.

**Built-on system**

The Independent Front Suspension is a bolt-on system and does not require modifications to frame rails.

**5 to 12 inch ride height reduction**

The 5 to 12 inch height reduction improves vehicle roll stability vs. best-in-class beam axle mechanical

**5°/m understeer**

5°/m understeer

**94.8 (2,409)**

32°

**Not applicable**

**Open**

The 5 to 12 inch height reduction improves vehicle roll stability vs. best-in-class beam axle mechanical

**-15°/m**

The Independent Front Suspension provides 2-times the wheel travel compared to leaf spring front beam

**3,150 (1,429) including sub-frame**

Central compliantly mounted drop carrier

**0° +- 1° adjustable**

0° +- 1° adjustable

**2.02:1**

4.48 to 10.48

8.9°

Outboard air disc brake, vented rotor

Non-drive Axle

KV 150, KV 180, SAE 1710 or 1810, 16TYS or

1:1

Clockwise into pinion

84.25 to 85.43 (2,140 to 2,170)

CV joints with ball spline plunge

Not applicable

Standard

Speed sensor, stand-alone version, park brake

Not applicable

4,000

16,000 to 22,000 (7,250 to 10,000)

2,493 (1,131)  including sub-frame

9.84 (250)

7.05 (179) vertical drop, 11.02 (280) horizontal offset to right

84.25 to 85.43 (2,140 to 2,170)

13,000 (17,630)

9.84 (250)

Hot rolled coil springs

60% reduction in cab and driver-absorbed power

Ride harshness improvements as well as reduction in unwanted steering feedback lead to less physical fatigue for the driver, and higher reliability of the cab.

2-times the wheel travel

The Independent Front Suspension provides 2-times the wheel travel compared to leaf spring front beam axle, which reduces peak stresses and loads onto the vehicle chassis, leading to improved component reliability.

Highly functional transfer case design

Low profile transfer case provides shift-on-the-fly capabilities from low to high, or high to low speeds for reliable and controllable shifting.

Modern steering geometry

Upgraded truck handles and steers like a SSV compared to standard AWD truck.

Air disc brake with ventrotor Brakes

Superior brake fade resistance and stopping power.

**TECHNICAL SPECIFICATIONS**

**Transfer Case**

<table>
<thead>
<tr>
<th>Transfer case model</th>
<th>11224</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine power HP (kW)</td>
<td>450 (336)</td>
</tr>
<tr>
<td>Maximum input speed RPM</td>
<td>4,000</td>
</tr>
<tr>
<td>Torque capacity · high range ft/lb, (Nm)</td>
<td>13,000 (17,630)</td>
</tr>
<tr>
<td>High speed ratio</td>
<td>1:1</td>
</tr>
<tr>
<td>Low speed ratio</td>
<td>2.02:1</td>
</tr>
<tr>
<td>Differential</td>
<td>None, Front axle pneumatic lockable</td>
</tr>
<tr>
<td>Housing type</td>
<td>Aluminum</td>
</tr>
<tr>
<td>Drop sizes in (mm)</td>
<td>7.05 (179) vertical drop, 11.02 (280) horizontal offset to right</td>
</tr>
<tr>
<td>Weight lb (kg)</td>
<td>605 (275)</td>
</tr>
<tr>
<td>Options</td>
<td>Speed sensor, stand-alone version, park brake</td>
</tr>
</tbody>
</table>

**Drive Axle**

**Configuration**

Double-wishbone with compliant upper control arm control bushing with inverted dual steering box layout

**Rating (lb (kg))**

16,000 to 22,000 (7,250 to 10,000)

**Axle system weight lb (kg)**

3,150 (1,429) including sub-frame

2,493 (1,131) including sub-frame

**Axle system type**

Central compliantly mounted drop carrier with planetary reduction wheel ends

**Axe ratios**

4.48 to 10.48

**Planetary ratios**

3.56 to 4.63

**Differential**

Open

**Wheel mount in (mm)**

Hub-piloted 10 stud 13.19 BC (335) with future option 11.25 BC (265.75)

Hub-piloted 10 stud 13.19 BC (335) with future option 11.25 BC (265.75)

**Brakes**

Outboard air disc brake, vented rotor

Outboard air disc brake, vented rotor

**Springs**

Hot rolled coil springs

Hot rolled coil springs

**Shocks**

High capacity twin-tube shocks with integrated bump aid

High capacity twin-tube shocks with integrated bump aid

**Total wheel travel in (mm)**

11.8 (300)

11.8 (300)

**Minimum rim size in (mm)**

22.5 in (572) with 65/385 to 65/425 tire

22.5 in (572) with 65/385 to 65/425 tire

**Hub flange to flange in (mm)**

94.8 (2,409)

94.8 (2,409)

**Track width in (mm)**

84.25 to 85.43 (2,140 to 2,170)

84.25 to 85.43 (2,140 to 2,170)

**Pinion joint series**

FV150, KV190, SAE 1710 or 1810, 16TYS or 17TYS, MECH 6C, 7C or 8.5C

Not applicable

**Steering joint type**

CV joints with ball spline plunge

Not applicable

**Max steering angle**

32°

32°

**Camber**

0° + 1° adjustable

0° + 1° adjustable

**Ride camber**

-15°/m

-15°/m

**Rull center height in (mm)**

9.84 (250)

9.84 (250)

**Ride steer**

5°/m understeer

5°/m understeer

**King pin inclination**

8.9°

8.9°

**ABS hub compatibility**

Standard

Standard

**NOTE:** Options may not be available on every axle and transfer case configuration. Rating, ratios and main dimensions are subject to AxleTech Engineering approval.
ABOUT US

AxleTech is a leading specialty vehicle powertrain technology company. We have the expertise and knowledge to design, develop, and build custom-engineered drivetrain systems for an array of on-highway and off-highway applications. For leading technology, quality, dependability, and durability, the rock-solid choice is AxleTech.

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