

NEWAY

AD SERIES

SEVERE-DUTY DRIVE AXLE AIR RIDE SUSPENSIONS
FOR 100% OFF-ROAD VOCATIONAL TRUCK AND
TRACTOR APPLICATIONS

NEWAY AD SERIES DRIVE-AXLE SUSPENSIONS

SEVERE DUTY WITH PROVEN PERFORMANCE

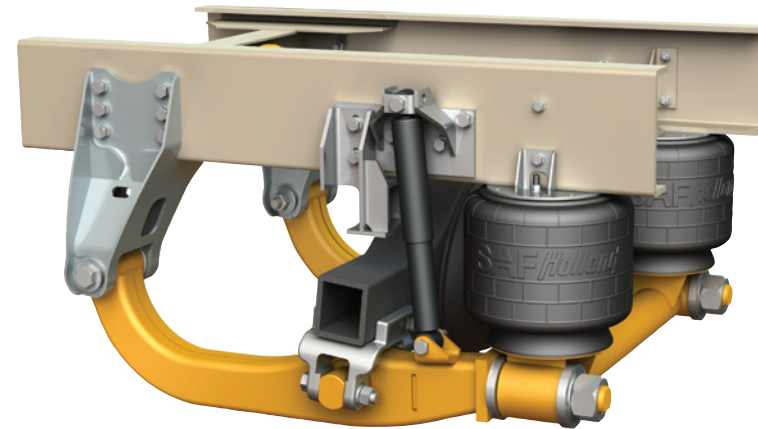
NEWAY pioneered air-ride with the launch of the first air-ride suspension for the heavy duty truck market in the 1960s. The AD Series suspension has been proven for over 25 years as the benchmark for vocational air-ride.

Designed for rugged vocational applications, the popular AD Series includes single, tandem and tridem models. Models with capacities from 23,000 lbs. to 30,000 lbs. per axle which when configured in the AD-390 tridem model delivers 90,000 lbs. capacity. The AD Series meets the ever increasing demands of high torque inputs and high capacities, while providing exceptional durability for severe duty applications.



SINGLE AXLE

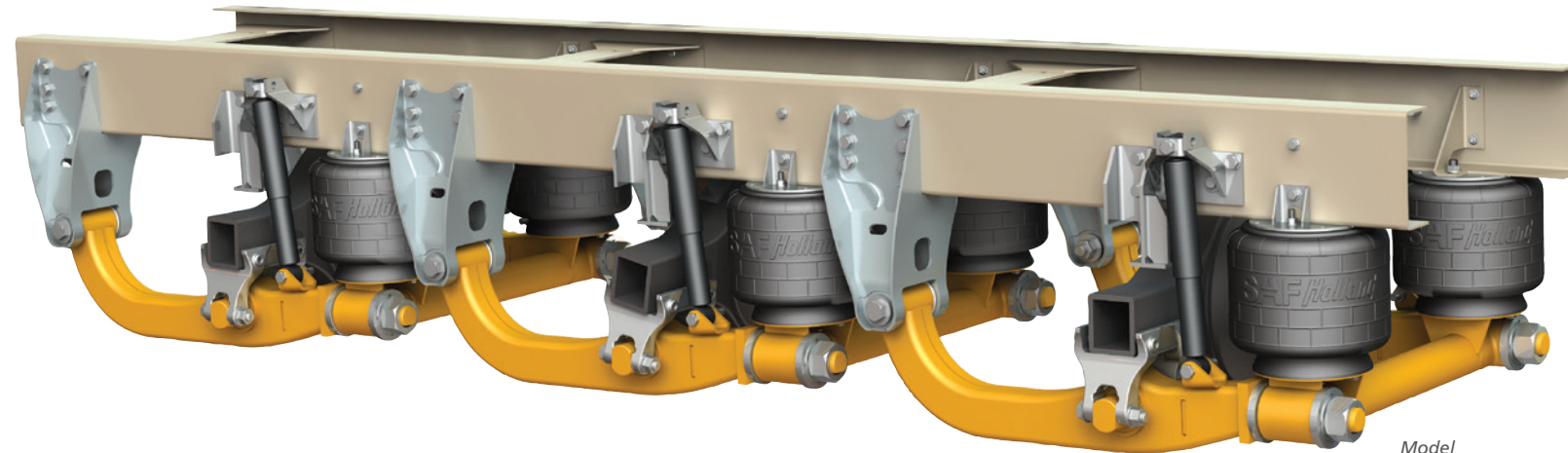
- 23,000 / 26,000 / 30,000 lbs. Capacities
(10,433 / 11,793 / 13,608 kg)



Model
AD-123 shown

TRIDEM AXLE

- 69,000 / 78,000 / 90,000 lbs. Capacities
(31,298 / 35,380 / 40,824 kg)

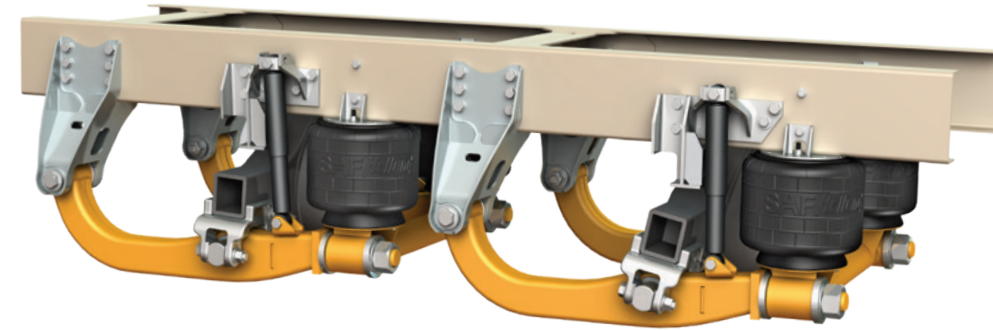


Model
AD-369 shown



TANDEM AXLE

- 46,000 / 52,000 / 60,000 lbs. Capacities
(20,865 / 23,587 / 27,216 kg)



Model
AD-246 shown

EACH AXLE INDEPENDENTLY SUSPENDED

- Eliminates tire hop and provides superior traction
- Load equalization across all air springs
- Superior traction and brake response

DURABLE DESIGN

- Approved for 100% off-road applications
- Run-flat capable at reduced speeds
- All steel structural construction provides maximum life
- Predictable roll stiffness for high CG loads

DEVELOPED FOR SEVERE-DUTY TRACTORS AND STRAIGHT TRUCKS CHARACTERIZED BY

- Heavy vertical loads
- High gross combination weights
- High torque drive trains
- High center of gravity loads

SEVERE-DUTY VEHICLE APPLICATIONS

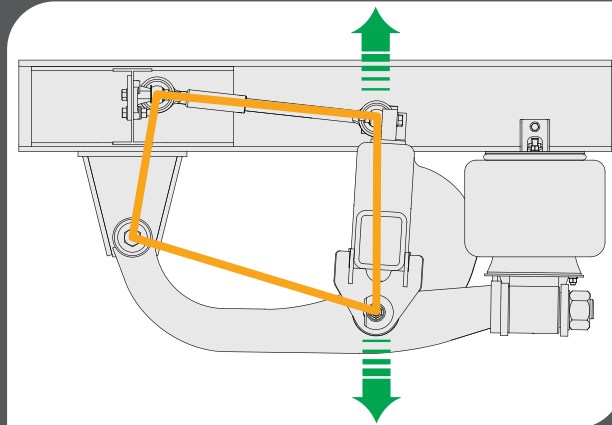
- Heavy haul / heavy construction
- Mine / pit / quarry
- Logging
- Oil field service
- Military

HEAVY DUTY VEHICLE APPLICATIONS

- Mixers and dumps for aggregate
- Asphalt and concrete transfer
- Fire apparatus and emergency vehicles



NEWAY AD SERIES IS BUILT TO PERFORM



NON-TORQUE REACTIVE PARALLELOGRAM SUSPENSION GEOMETRY

- Reduces driveline noise and vibration by maintaining a more constant driveline working angle during axle articulation and high torque input.
- Minimizes effects of pinion angle change caused by high torque input that can exceed the maximum recommended driveline working angles, including acceleration with heavy loads and climbing steep grades.
- Minimizes frame rise due to suspension wind-up.
- Extends Universal Joint life by helping to maintain proper cancellation angles; especially important in short inter-axle shafts of tandem and tridem drive-axle configurations.
- Provides improved braking response.



FRAME BRACKETS

are designed to mount to standard C-Channel frame rails. Frame brackets are compatible with standard rail thicknesses as well as lined or reinforced rails often used in vocational chassis construction.

*Model AD-130 shown
30,000 LBS. CAPACITY*

EQUALIZING BEAM

transfers vertical, horizontal, lateral and roll loads into frame brackets and air spring. Rigid equalizing beams are rubber bushed at all connection points. No lubrication required on any of the suspension pivot joints.



TORQUE ROD

transmits braking loads and acceleration loads into the chassis frame rails / crossmember while maintaining proper pinion angles for the driveline.

TRACK BAR

keeps axle central to frame rails and distributes lateral loads into the frame rail system.

WELDED AXLE ADAPTORS

AD Series suspensions are available for both Bar-Pin and Thru-Pin axle adaptors (shown).

INTEGRATED ROLL STABILITY

- The suspension absorbs roll forces first with deflection of the rubber bushings at the suspension connections after which the metal-to-metal clearances in the connections begin to lock-out as the suspension builds to a high roll resistance.
- The Transverse Beam of the suspension functions as a torsional member absorbing the majority of roll forces, protecting the axle housing and axle connections from unwanted stress.
- The Transverse Beam also allows for a wide load center on the axle, which is important in managing high CG loads.

HARSHNESS AND VIBRATION ISOLATION

Proprietary **RUBBER BUSHINGS** are featured at all suspension connections:

- Long-life bushings feature premium rubber compounds permanently bonded to steel cores.
- Standard Pivot Connection Bushings now feature a 'straight bore' metal core design to further enhance bushing life.
- Rubber bushings eliminate lubrication requirements.

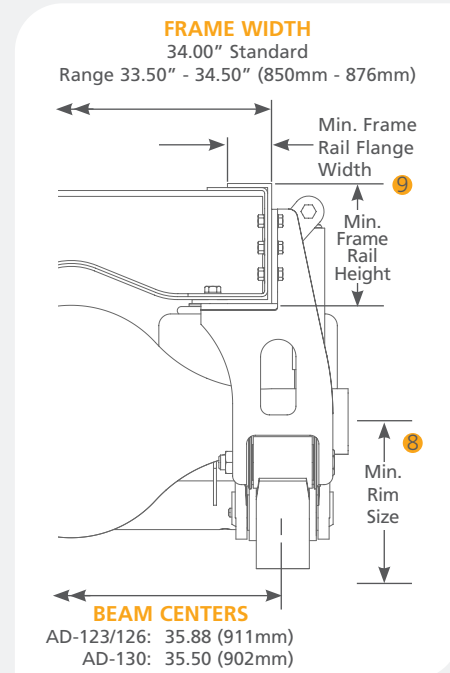
STANDARD NEWAY SHOCKS feature increased durability and service life over competitive shock brands:

- Tuned valve codes provide improved damping in severe-duty vehicle operations.
- The shocks feature high pull-apart strength to function as the down-stop of the axle during severe rebound (extension) events.

AIR SPRINGS feature large air volume and low natural frequency response for optimum ride quality:

- Feature internal bumpers designed to cushion full-jounce (compression) events prior to axle stop contact, protecting the air springs, the shocks, and axle from excessive compression.

SPECIFICATIONS

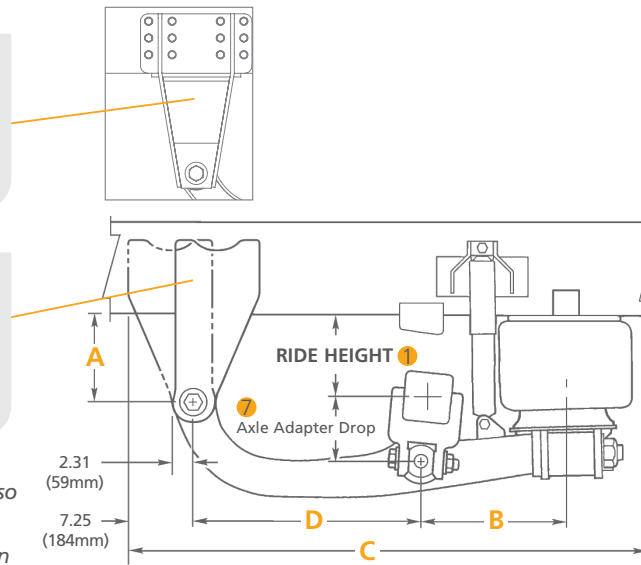


FRAME BRACKETS

AD-130 frame brackets are symmetrical in design (no offset) and have additional fastener positions.

AD-123/126 frame brackets can be installed offset rear (shown solid line), or offset forward.

Slim profile frame brackets are also available for certain applications. Consult SAF-HOLLAND Application Engineering for information.



7 Axle adapter drop and width (measured at the equalizing beam connection) are dimensions available from the axle manufacturer. These dimensions are required for application review by SAF-HOLLAND Applications Engineering. AD-130/260/390 must utilize 7.75" (197mm) axle adapter drop to maintain proper clearances.

SINGLE AXLE

MODEL	RIDE HEIGHTS 1	APPROX SUSPENSION WEIGHT 5	CAPACITY	GCWR 4	SITE TRAVEL RATING 6 @ 110 PSIG AIR SPRING PRESSURE	AXLE TRAVEL	MULTI AXLE SPACING MIN - MAX	MAX BRAKE CHAMBER SIZE 3
AD-123	6.50" (165mm)	477 lbs. (216kg)	23,000 lbs. (10,433kg)	95,000 lbs. (43,080kg)	30,250 lbs. (13,721kg)	DESIGNED FOR +/- 3" OF TOTAL AXLE TRAVEL	52 - 60" (1321 - 1524mm)	3030
	8.75" (222mm)							
	10.00" (254mm)							
AD-126	8.75" (222mm)	559 lbs. (253kg)	26,000 lbs. (11,793kg)	142,000 lbs. (64,400kg)	33,000 lbs. (14,968kg)	NOTE: TRAVEL DIMENSION VARIES BY MODEL RIDE HEIGHT	53 - 60" (1346 - 1524mm)	3030
	10.00" (254mm)							
AD-130	8.75" (222mm)	630 lbs. (285kg)	30,000 lbs. (13,608kg)	160,000 lbs. (72,500kg)	39,000 lbs. (17,690kg)	NOTE: TRAVEL DIMENSION VARIES BY MODEL RIDE HEIGHT	61 - 63" (1549 - 1600mm)	3636
	10.00" (254mm)	650 lbs. (294kg)						
	12.00" (305mm)	660 lbs. (299kg)						

TANDEM AXLE

MODEL	RIDE HEIGHTS 1	APPROX SUSPENSION WEIGHT 5	CAPACITY	GCWR 4	SITE TRAVEL RATING 6 @ 110 PSIG AIR SPRING PRESSURE	AXLE TRAVEL	MULTI AXLE SPACING MIN - MAX	MAX BRAKE CHAMBER SIZE 3
AD-246	6.50" (165mm)	954 lbs. (433kg)	46,000 lbs. (20,865kg)	190,000 lbs. (86,184kg)	60,500 lbs. (27,433kg)	DESIGNED FOR +/- 3" OF TOTAL AXLE TRAVEL	52 - 60" (1321 - 1524mm)	3030
	8.75" (222mm)							
	10.00" (254mm)							
AD-252	8.76" (222mm)	1118 lbs. (507kg)	52,000 lbs. (23,587kg)	245,000 lbs. (111,132kg)	66,000 lbs. (29,937kg)	NOTE: TRAVEL DIMENSION VARIES BY MODEL RIDE HEIGHT	53 - 60" (1346 - 1524mm)	3030
	10.00" (254mm)							
AD-260	8.75" (222mm)	1260 lbs. (571kg)	60,000 lbs. (27,216kg)	300,000 lbs. (136,080kg)	78,000 lbs. (35,380kg)	NOTE: TRAVEL DIMENSION VARIES BY MODEL RIDE HEIGHT	61 - 63" (1549 - 1600mm)	3616
	10.00" (254mm)	1300 lbs. (589kg)						
	12.00" (305mm)	1320 lbs. (598kg)						

TRIDEM AXLE

MODEL	RIDE HEIGHTS 1	APPROX SUSPENSION WEIGHT 5	CAPACITY	GCWR 4	SITE TRAVEL RATING 6 @ 110 PSIG AIR SPRING PRESSURE	AXLE TRAVEL	MULTI AXLE SPACING MIN - MAX	MAX BRAKE CHAMBER SIZE 3
AD-369	8.75" (222mm)	1431 lbs. (649kg)	69,000 lbs. (31,298kg)	285,000 lbs. (129,250kg)	90,750 lbs. (41,164kg)	DESIGNED FOR +/- 3" OF TOTAL AXLE TRAVEL	52 - 60" (1321 - 1524mm)	3030
	10.00" (254mm)							
AD-378	8.75" (222mm)	1677 lbs. (760kg)	78,000 lbs. (35,380kg)	367,500 lbs. (166,670kg)	99,000 lbs. (44,906kg)	NOTE: TRAVEL DIMENSION VARIES BY MODEL RIDE HEIGHT	53 - 60" (1346 - 1524mm)	3030
	10.00" (254mm)							
AD-390	8.75" (222mm)	1890 lbs. (857kg)	90,000 lbs. (40,824kg)	450,000 lbs. (204,000kg)	117,000 lbs. (53,070kg)	NOTE: TRAVEL DIMENSION VARIES BY MODEL RIDE HEIGHT	61 - 63" (1549 - 1600mm)	3636
	10.00" (254mm)	1950 lbs. (884kg)						
	12.00" (305mm)	1980 lbs. (898kg)						

1 Other ride heights available. Contact SAF-HOLLAND for more information.

2 AD-123/246 at 6.50" ride height is only available with 20,000/40,000 lbs. (9,070/18,144kg) capacity axles.

3 Contact SAF-HOLLAND Application Engineering for approval of axle spreads other than indicated.

4 For higher GCWR, consult SAF-HOLLAND Application Engineering. AD Series suspensions are less susceptible to the effects of high GCWR, due to their parallelogram design, than other drive train components. The AD Series suspension is typically not the limiting factor when calculating maximum GCWR.

5 Suspension weight does not include track bar, torque rod/axle brackets and axle adapters.

6 Vehicle operation is limited to no more than 5% of total vehicle operation and a maximum speed not to exceed 5 MPH. Site travel ratings must not exceed when operating tag or pusher lift axles. Additional site travel rating available by contacting SAF-HOLLAND.

SINGLE AXLE

MODEL	A FRAME BRACKET HEIGHT	B AXLE CONN. TO AIR SPRING	C OVERALL LENGTH	D PIVOT CONN. TO AXLE CONN.
AD-123-6.5 2	4.80" (122mm)	14.81" (376mm)	50.50" (1283mm) Frame Bracket Offset Rear	24.75" (629mm)
AD-123-8.75	10.00" (254mm)			
AD-123-10	10.00" (254mm)			
AD-126-8.75	10.00" (254mm)	15.81" (402mm)	52.25" (1327mm) Frame Bracket Offset Rear	24.75" (629mm)
AD-126-10	10.00" (254mm)			
AD-130-8.75	11.50" (292mm)	15.66" (397mm)	59.00" (1499mm) Symmetrical Frame Bracket	26.50" (673mm)
AD-130-10	13.50" (343mm)			
AD-130-12	13.50" (343mm)			

TANDEM AXLE

MODEL	A FRAME BRACKET HEIGHT	B AXLE CONN. TO AIR SPRING	C OVERALL LENGTH	D PIVOT CONN. TO AXLE CONN.
AD-246-6.5 2	4.80" (122mm)	14.81" (376mm)	55.00" (1397mm) Frame Bracket Offset Forward	24.75" (629mm)
AD-246-8.75	10.00" (254mm)			
AD-246-10	10.00" (254mm)			
AD-252-8.75	10.00" (254mm)	15.81" (402mm)	56.75" (1441mm) Frame Bracket Offset Forward	24.75" (629mm)
AD-252-10	10.00" (254mm)			
AD-260-8.75	11.50" (292mm)	15.66" (397mm)	59.00" (1499mm) Symmetrical Frame Bracket	26.50" (673mm)
AD-260-10	13.50" (343mm)			
AD-260-12	13.50" (343mm)			

TRIDEM AXLE

MODEL	A FRAME BRACKET HEIGHT	B AXLE CONN. TO AIR SPRING	C OVERALL LENGTH	D PIVOT CONN. TO AXLE CONN.
AD-369-8.75	10.00" (254mm)	14.81" (376mm)	50.50 - 55.00" (1282 - 1397mm)	24.75" (629mm)
AD-369-10	10.00" (254mm)			
AD-378-8.75	10.00" (254mm)	15.81" (402mm)	52.25 - 56.75" (1327 - 1441mm)	24.75" (629mm)
AD-378-10	10.00" (254mm)			
AD-390-8.75	11.50" (292mm)	15.66" (397mm)	59.00" (1498mm) Symmetrical Frame Bracket	26.50" (673mm)
AD-390-10	13.50" (343mm)			
AD-390-12	13.50" (343mm)			

8 AD-123/246/369 suspensions are compatible with 22.50" rims when the axle is equipped with axle adapters with a 7" drop. Axle adapters with 7.75" drop require a minimum 24.50" rim. Contact SAF-HOLLAND Power Suspension Applications Engineering when using axle adapters with drops larger than 7.75".

9 Contact SAF-HOLLAND Power Suspension Application Engineering.

NOTES:

- Some dimensions may vary depending on application. Refer to appropriate suspension installation drawing.
- Frame should be parallel to ground within $\pm 1^\circ$ to ensure that ride heights of lead rear axle and trailing rear axle are similar. Raked frames may be accommodated. Contact SAF-HOLLAND for information.
- All dimensions expressed in inches unless otherwise noted. All weights expressed in pounds unless otherwise noted.
- SAF-HOLLAND reserves the right to change this information without notice. Specifications shown were accurate at the time of printing but are subject to change.



TRAILER AXLES AND
SUSPENSION SYSTEMS



COUPLING AND
LIFTING SYSTEMS



SUSPENSIONS FOR
TRUCKS AND BUSES



SUSPENSIONS AND
AXLE SYSTEMS



BUS AIR SUSPENSION
SYSTEMS



TOWING
SYSTEMS



TRAILER AXLES/SUSPENSIONS,
COUPLING AND LIFTING
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