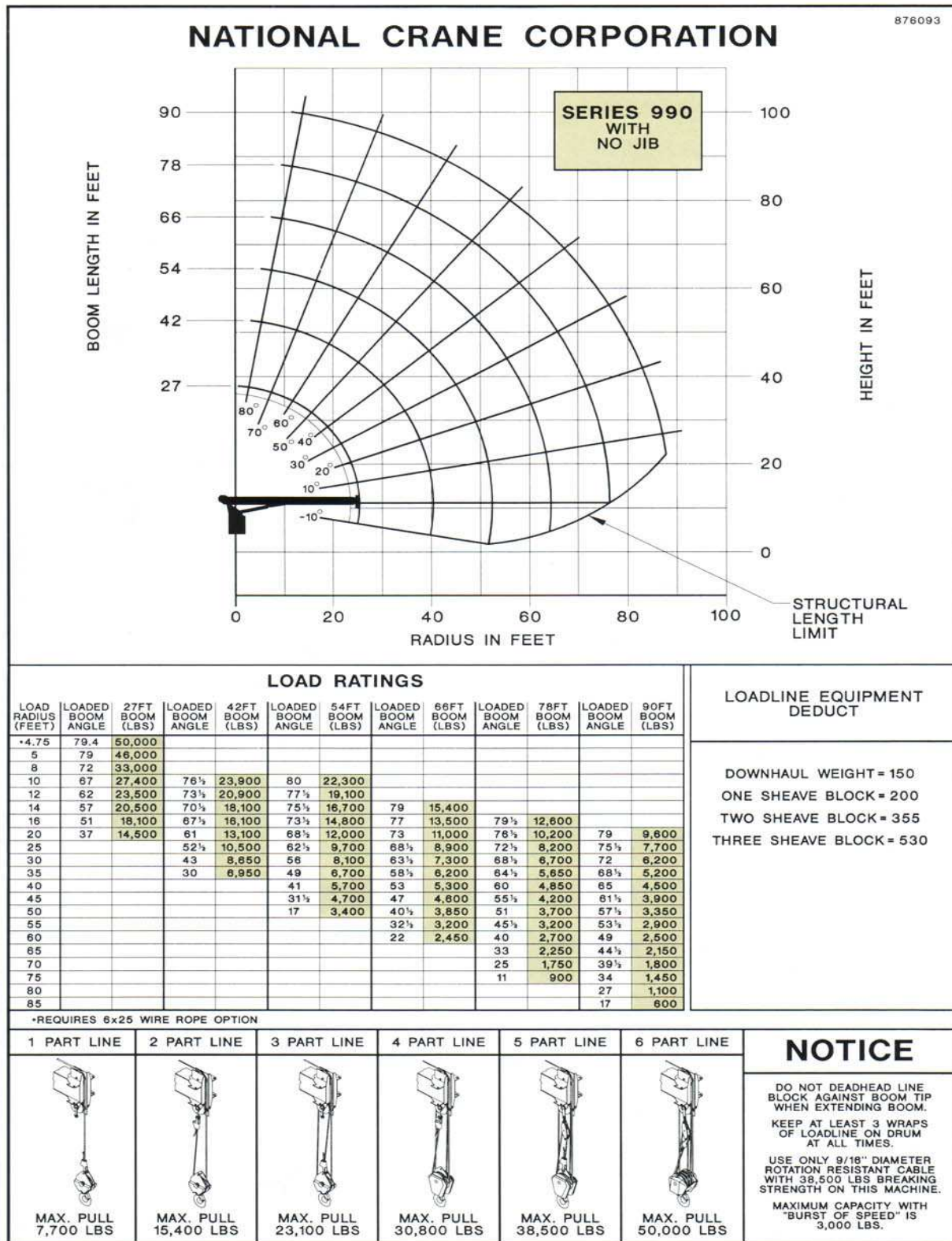


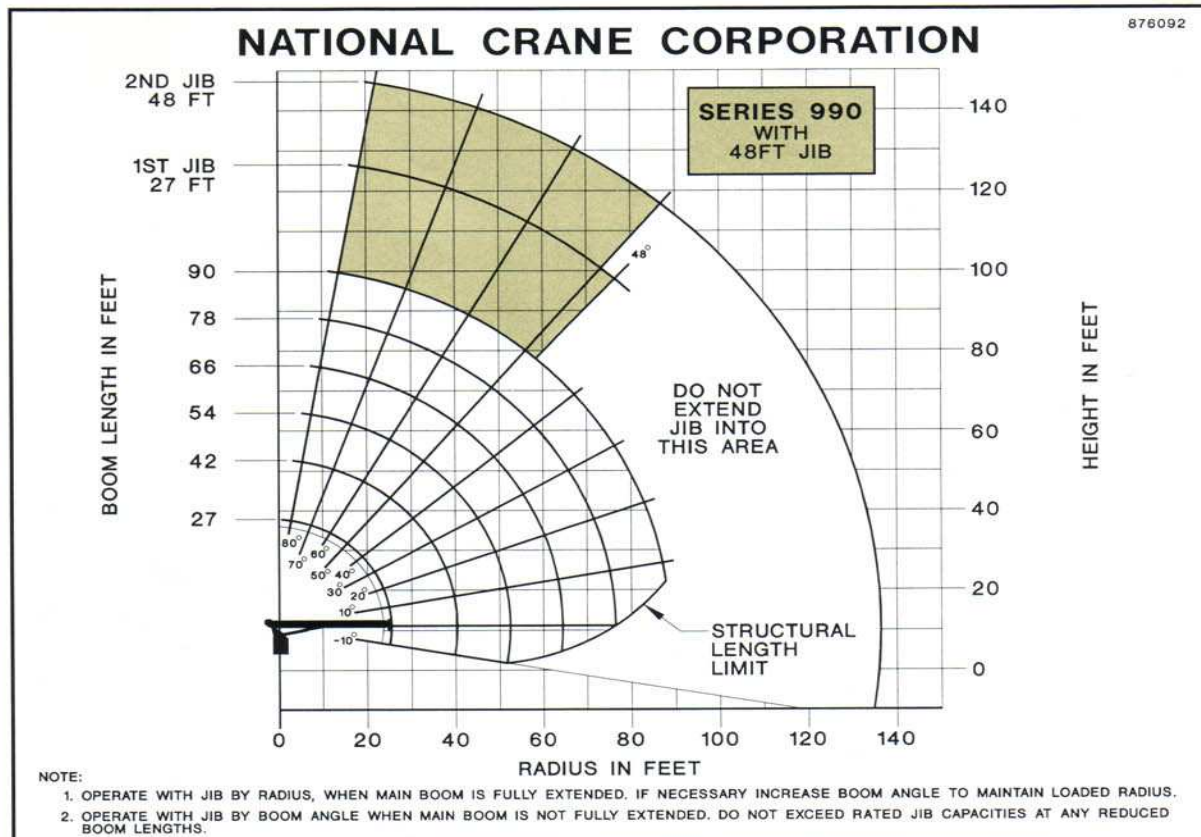
National Series 900 Telescoping Crane

Designed Exclusively for the Canadian Market



***Load Rating Charts
for Model 990 (50,000-pound
capacity crane) without a jib
and with a 48-foot jib***











LOAD RATINGS

| LOAD RADIUS (FEET) | LOADED BOOM ANGLE | 27FT BOOM (LBS) | LOADED BOOM ANGLE | 42FT BOOM (LBS) | LOADED BOOM ANGLE | 54FT BOOM (LBS) | LOADED BOOM ANGLE | 66FT BOOM (LBS) | LOADED BOOM ANGLE | 78FT BOOM (LBS) | LOADED BOOM ANGLE | 90FT BOOM (LBS) | LOAD RADIUS (FEET) | LOADED BOOM ANGLE | 27FT JIB (LBS) | LOADED BOOM ANGLE | 48FT JIB (LBS) |
|--------------------|-------------------|-----------------|-------------------|-----------------|-------------------|-----------------|-------------------|-----------------|-------------------|-----------------|-------------------|-----------------|--------------------|-------------------|----------------|-------------------|----------------|
| 4.75 | 79.4 | 50,000 | | | | | | | | | | | 30 | 77 | 4,800 | 79½ | 3,100 |
| 5 | 79 | 48,000 | | | | | | | | | | | 35 | 74½ | 4,300 | 77½ | 2,900 |
| 8 | 72 | 32,300 | | | | | | | | | | | 40 | 72 | 3,650 | 75½ | 2,700 |
| 10 | 67 | 26,700 | 76½ | 23,500 | 80 | 22,000 | | | | | | | 45 | 69 | 3,000 | 73½ | 2,500 |
| 12 | 62 | 22,800 | 73½ | 20,500 | 77½ | 18,800 | | | | | | | 50 | 66½ | 2,450 | 71½ | 2,300 |
| 14 | 57 | 19,800 | 70½ | 17,700 | 75½ | 16,400 | 79 | 15,200 | | | | | 55 | 63½ | 2,000 | 69½ | 2,100 |
| 16 | 51 | 17,400 | 67½ | 15,700 | 73½ | 14,500 | 77 | 13,300 | 79½ | 12,400 | | | 60 | 60½ | 1,800 | 67 | 1,800 |
| 20 | 37 | 13,800 | 61 | 12,700 | 68½ | 11,700 | 73 | 10,800 | 76½ | 10,000 | 79 | 9,500 | 65 | 57½ | 1,300 | 64½ | 1,500 |
| 25 | | | 52½ | 10,100 | 62½ | 9,400 | 68½ | 8,700 | 72½ | 8,000 | 75½ | 7,600 | 70 | 54½ | 1,000 | 62 | 1,250 |
| 30 | | | 43 | 8,250 | 56 | 7,800 | 63½ | 7,100 | 68½ | 6,500 | 72 | 6,100 | 75 | 51½ | 750 | 59½ | 1,050 |
| 35 | | | 30 | 6,550 | 49 | 6,400 | 58½ | 6,000 | 64½ | 5,450 | 68½ | 5,100 | 80 | 48 | 500 | 57 | 850 |
| 40 | | | | | 41 | 5,400 | 53 | 5,100 | 60 | 4,650 | 65 | 4,400 | 85 | | | 54 | 650 |
| 45 | | | | | 31½ | 4,400 | 47 | 4,400 | 55½ | 4,000 | 61½ | 3,800 | 90 | | | 51 | 450 |
| 50 | | | | | 17 | 3,100 | 40½ | 3,650 | 51 | 3,500 | 57½ | 3,250 | | | | | |
| 55 | | | | | | | 32½ | 3,000 | 45½ | 3,000 | 53½ | 2,800 | | | | | |
| 60 | | | | | | | 22 | 2,250 | 40 | 2,500 | 49 | 2,400 | | | | | |
| 65 | | | | | | | | | 33 | 2,050 | 44½ | 2,050 | | | | | |
| 70 | | | | | | | | | 25 | 1,550 | 39½ | 1,700 | | | | | |
| 75 | | | | | | | | | 11 | 700 | 34 | 1,350 | | | | | |
| 80 | | | | | | | | | | | 27 | 1,000 | | | | | |
| 85 | | | | | | | | | | | 17 | 500 | | | | | |

*REQUIRES 6x25 WIRE ROPE OPTION

LOADLINE EQUIPMENT DEDUCT

DOWNHAUL WEIGHT = 150
ONE SHEAVE BLOCK = 200
TWO SHEAVE BLOCK = 355
THREE SHEAVE BLOCK = 530

| 1 PART LINE | 2 PART LINE | 3 PART LINE | 4 PART LINE | 5 PART LINE | 6 PART LINE |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
| MAX. PULL 7,700 LBS | MAX. PULL 15,400 LBS | MAX. PULL 23,100 LBS | MAX. PULL 30,800 LBS | MAX. PULL 38,500 LBS | MAX. PULL 50,000 LBS |

NOTICE

DO NOT DEADHEAD LINE BLOCK AGAINST BOOM TIP WHEN EXTENDING BOOM.
KEEP AT LEAST 3 WRAPS OF LOADLINE ON DRUM AT ALL TIMES.

USE ONLY 9/16" DIAMETER ROTATION RESISTANT CABLE WITH 38,500 LBS. BREAKING STRENGTH ON THIS MACHINE.

MAXIMUM CAPACITY WITH "BURST OF SPEED" IS 3,000 LBS.



National Series 900 Booms and Jibs

Boom and Jib Combination

Series 900: 27 - 90 ft four section



Series 900: 27 - 90 ft four section

9FJ48M: 27 - 48 ft manual pull-out



Reaches to 146 feet

The Series 900 is currently available in the two configurations shown above

- 1 The Series 900 with the 27-90 ft four section boom
- 2 Same as above with optional side-stowing jib: Model 9FJ48M, 27 - 48 ft manual pull-out

Do not operate crane booms, jib extensions, any accessories, or loads within 10 feet (3m) of live power lines or other conductors of electricity.

- 1 Load ratings shown on these charts are maximum allowable loads with the outriggers properly extended on a firm, level surface and the crane

leveled and mounted on a factory-recommended truck

- 2 Always level the crane with the level indicator located on the crane frame
- 3 The operator must reduce loads to allow for factors such as wind, ground conditions, operating speeds and the effect of freely suspended loads

- 4 Overloading this crane may cause structural collapse or instability
- 5 Weights of any accessories attached to the boom or loadline must be deducted from the load chart capacities
- 6 Do not exceed jib capacities at any reduced boom lengths

| NATIONAL SERIES 900 WINCH DATA | | | 1 Part Line | 2 Part Line | 3 Part Line | 4 Part Line | 5 Part Line | 6 Part Line |
|---|---|---------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| CAUTION | | | | | | | | |
| <ul style="list-style-type: none"> Do not deadhead lineblock against boom tip when extending boom Keep at least three wraps of loadline on drum at all times Use only 9/16" diameter rotation resistant cable with 38,500 pounds breaking strength on this machine Maximum capacity with "Burst-of-Speed" is 3,000 pounds | | | | | | | | |
| Winch | Cable Supplied | Average Breaking Strength | Lift and Speed | Lift and Speed | Lift and Speed | Lift and Speed | Lift and Speed | Lift and Speed |
| Standard Planetary Winch | 9/16" diameter rotation resistant 19 x 7 IWRC | 38,500 lbs | 7,700 lbs 164 fpm | 15,400 lbs 82 fpm | 23,100 lbs 55 fpm | 30,800 lbs 41 fpm | 38,500 lbs 33 fpm | 46,000 lbs 27 fpm |
| | Optional 9/16" diameter 6 x 25 IWRC | 29,750 lbs | 7,700 lbs 164 fpm | 15,400 lbs 82 fpm | 23,100 lbs 55 fpm | 30,800 lbs 41 fpm | 38,500 lbs 33 fpm | 46,000 lbs 27 fpm |
| with "Burst-of-Speed" Feature | Same as corresponding cable data shown above | | 3,000 lbs 265 fpm | 6,000 lbs 133 fpm | 9,000 lbs 88 fpm | 12,000 lbs 66 fpm | 15,000 lbs 53 fpm | 18,000 lbs 44 fpm |

All winch pulls and speeds are shown on the fourth layer. Winch pulls would increase on the first, second and third layers. Winch line pulls would decrease on the first, second, and third layers. Winch line pulls may be limited by the winch capacity or the cable safety factor. These are shown below:

Winch

With standard rotation resistant rope
With optional 6 x 25 IWRC rope

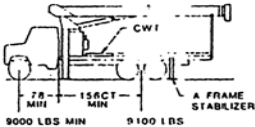
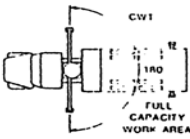
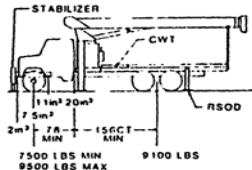
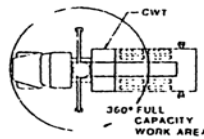
Bare Drum Pull

10,000 pounds
10,000 pounds

Allowable Cable Pull

7,700 pounds
8,400 pounds

National Series 900 Truck Specifications

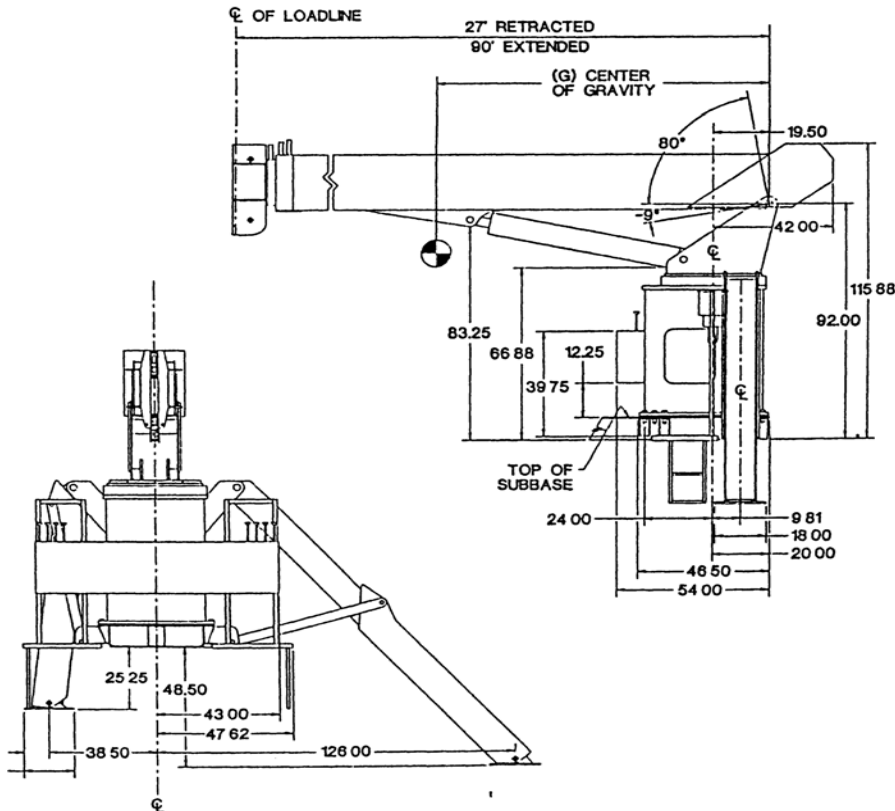
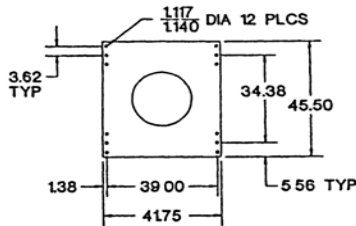
| Mounting Configurations | Configuration 1 with Torsion Box | Configuration 2 with Torsion Box |
|---|---|--|
| The versatility of the Series 900 can be enhanced by the mounting configurations described at the right. The configurations are based on the Series 900 with an 85% stability factor. The complete unit must be installed in accordance with factory requirements and a test performed to determine actual stability and counterweight requirements since individual truck chassis vary. | This configuration is the least expensive mounting method for the Series 900. This mount, with the crane mounted behind the truck cab, requires the least weight of all mounts for stability, thus, you can haul larger payloads on your truck. It requires standard subbase and rear (RSOD) stabilizers. | This mount requires front stabilizers to give the machine full capacity 360° around the truck. Care must be taken in the selection of the truck. It must meet the minimum requirements shown below. The front stabilizer gives the machine a solid base, helping the operator control the loads precisely. Requires front and rear down-and-out stabilizers and a subbase. The truck frame must be made from 110,000 PSI steel. See "Truck Frame and Mounting Bolt Requirements for Front Stabilizer" statement on page 11. Contact the factory for details. |
| Stable | 180° | 360° |
| Gross Axle Weight Rating (GAWR), front | 16,000 lbs | 16,000 lbs |
| Gross Axle Weight Rating (GAWR), rear | 34,000 lbs | 34,000 lbs |
| Wheelbase (WB) | 234 inches | 234 inches |
| Cab to axle/trunnion (CA/CT) | 156 inches | 156 inches |
| Frame Section Modulus (SM) under crane 50,000 PSI or 110,000 PSI | 35.0 inch ³ 15.9 inch ³ | Not applicable (see note above) 20.0 inch ³ |
| Frame Section Modulus (SM) over rear stabilizers: 50,000 PSI or 110,000 PSI | 17.0 inch ³ 13.0 inch ³ | Not applicable (see note above) 13.0 inch ³ |
| Stability Weight, Front | 7,500 lbs minimum * | 7,500 lbs minimum * |
| Stability Weight, Rear | 9,100 lbs minimum, RSOD * | 9,100 lbs minimum, RSOD * |
| Estimated Average Final Weight | 37,500 lbs | 37,500 lbs |
| NOTES: (1) GAWR means Gross Axle Weight Rating and is dependent on all components of the vehicle such as axles, tires, springs, frame, etc meeting manufacturer's recommendations. Always specify GAWR when purchasing trucks. (2) Minimum axle requirements may increase with use of longer wheelbase, service bodies, diesel engines or front stabilizers. (3) Diesel engines require variable speed governor and energize-to-run fuel solenoid for smooth crane operation. |   |   |
| * Estimated axle scale weights prior to installation of crane, stabilizers, and subbase for 85% sta | | |

National Boom Rests

Dimensional Specification

| Series | Retracted Length | Extended Length | G | Dry* Wt/Lb | With Oil* Wt/Lb |
|--------|------------------|-----------------|-----|------------|-----------------|
| 990 | 27 ft | 90 ft | 98" | 19,000* | 19,800* |

* Weight includes all items except RSOD (1200#)



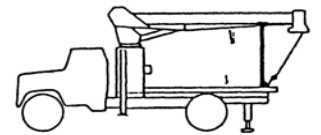
Cranes are tough when they're in use, but they can be severely damaged during travel from job to job. The only way a crane can be protected from this type of wear and damage is a strong, solid, boom rest.

Boom Rests

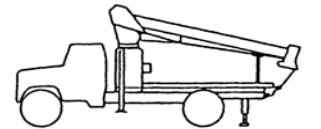
- Add years to the life of your crane
- Reduce stress on the crane frame
- Protect rotation gear from transit damage
- Remove stress from truck frame
- Spread crane load more evenly
- Reduce maintenance and downtime

In addition, boom rests are required to provide a positive way to immobilize your crane for transit.

National Crane supplies two heavy-duty boom rests for strong, sure protection of your crane. There is a quality National boom rest to fit your mounting configuration. All National Cranes must be fitted with a boom rest. All factory mounted cranes will be supplied with a boom rest.



Horizontal rear bed mount for greater load space



Low-profile rear bed mount for lower center of gravity