

Specs

Equipment Specifications — Grove MZ66B Manlift

Quick-reference spec sheet. See [Research](#) for sourcing, diagnosis, and full provenance on every figure below.

Machine

Spec	Value
Make / Model	Grove Manlift MZ66B
Type	Self-propelled telescoping-boom aerial work platform
Production years	~1987-1999
Working height / reach	~66 ft
Platform capacity (unrestricted)	500 lb
Operating weight	~20,500 lb
Drive	4x4
Maximum drive speed (boom stowed, HIGH range)	4.8 kph (3.0 mph) — per the Grove MZ48B/MZ66B factory sales brochure (Form SBMZ48B/MZ66B), the only document found that specs this exact model suffix by name. See note below.
Gradeability (theoretical)	25%
Platform height (stowed to platform)	60 ft
Horizontal reach	48 ft 8 in
Overall length / width	25 ft 4 in / 7 ft 11 in
Tire size	15x19.5-12PR, air-filled
Hydraulic reservoir	30 gal (114 L)
Hydraulic pump	Variable-displacement axial piston, 26 gpm (98.4 lpm), 3500 psi (241 bar) max
Fuel tank	30 gal (114 L) steel, sight gauge
Current parts/documentation rights holder	MinnPar LLC, Roseville, MN — 1-800-889-3382, sales@minnpar.com

⚠ **Drive speed/gradeability — two factory sources disagree.** The Grove Operators Safety and Maintenance Handbook (T60/MZ66 family) states 6.4 kph (4 mph) and 30% gradeability for “T60 (MZ66).” The MZ48B/MZ66B-specific sales brochure states 4.8 kph (3.0 mph) and 25% for “MZ66B” by name. Since a MZ66B data plate is the exact match for the brochure — the only document titled for that exact suffix — treat **3.0 mph / 25%** as the more trustworthy figure. Two reasons to trust that over a print-run fluke: forum discussion (see [Research](#)) notes the B-suffix differs in counterweight/tire package, **and** the handbook’s own lubrication chart only ever references a Ford or Deutz engine option, never the Nissan A15 — suggesting the handbook documents a genuinely different engine package, not just a trim variant. Forum discussion is in [Research](#) §2.5. See the [top speed writeup](#) for the full reasoning.

Engine — Nissan A15

All figures in this section are transcribed directly from the actual Nissan factory manual, **Service Data and Specifications, p.MA-9** (see the [engine service manual](#)) — this is real factory data, not an aggregator estimate.

Spec	Value
Type	4-cylinder, water-cooled, gasoline, industrial
Engine serial number (this unit)	85029 — the Nissan/Grindstaff engine number, quote it when calling Grindstaff (816-796-7676) or ordering A15 engine parts. This is not the same as the Grove machine's own chassis serial number (on the Grove data plate) — that's only needed separately for structural/boom parts with serial effectivity breaks.
Bore × stroke	76.0 × 82.0 mm (2.992 × 3.228 in)
Standard bore	2.990 in
Displacement	1,487 cc (90.8 cu in)
Compression pressure, standard	1,245 kPa (12.45 bar / 12.7 kg/cm ² / 181 psi) @ 350 rpm cranking
Compression pressure, minimum	981 kPa (9.81 bar / 10.0 kg/cm ² / 142 psi) @ 350 rpm cranking
Firing order	1-3-4-2 (distributor rotates counter-clockwise)
Engine oil capacity, with filter	3.2 L (3-3/8 US qt, 2-7/8 Imp qt)
Engine oil capacity, without filter	2.7 L (2-7/8 US qt, 2-3/8 Imp qt)
Maximum engine speed, no-load	Less than 3,450 rpm
Continuous rated engine speed	2,800 rpm
Drive belt deflection	8–12 mm (0.31–0.47 in) under 98 N (10 kg / 22 lb) applied force

Torque specs (complete factory table, p.MA-9)

Fastener	N·m	kg-m	ft-lb
Cylinder head bolt	69-74	7.0-7.5	51-54
Rocker shaft bracket bolt	20-25	2.0-2.5	14-18
Main bearing cap bolt	49-59	5.0-6.0	36-43
Flywheel fixing bolt	78-88	8.0-9.0	58-65
Connecting rod cap nut	31-37	3.2-3.8	23-27
Camshaft sprocket bolt	39-47	4.0-4.8	29-35
Locating plate bolt	5-8	0.5-0.8	3.6-5.8
Valve rocker adjusting nut	16-22	1.6-2.2	12-16
Oil strainer bolt	9-14	0.9-1.4	6.5-10.1
Oil pan bolt	4-6	0.4-0.6	2.9-4.3
Oil pan drain plug	20-29	2.0-3.0	14-22
Timing chain cover bolt	5-7	0.5-0.7	3.6-5.1
Crank pulley bolt	147-196	15-20	108-145
Water pump bolt	9-14	0.9-1.4	6.5-10.1
Fuel pump nut	9-14	0.9-1.4	6.5-10.1
Spark plug	15-20	1.5-2.0	11-14

The bolded rows are the ones that matter most for a rebuild (head, mains, rods). The head bolt figure is 51-54 ft-lb from the actual factory table. Main bearing and rod bearing torques match Grindstaff's general figures exactly (36-43 and 23-27 ft-lb).

Valve clearance

Condition	Clearance (I & E)
Hot	0.35 mm (0.014 in)

Only the hot spec is given in the factory table — the manual doesn't specify a separate cold clearance.

Ignition — confirmed factory data

Spec	Value
Spark plug type (OEM)	L47PW or B4ES — AC Delco R44T is functionally equivalent
Spark plug gap — factory spec	0.8-0.9 mm (0.031-0.035 in)
Spark plug torque	15-20 N·m (11-14 ft-lb)
Distributor point gap	0.45-0.55 mm (0.018-0.022 in)
Distributor dwell angle	49°-55°
High-tension cable resistance	Less than 30,000 Ω
Ignition timing	10° BTDC at idle (the A12 is 12° BTDC — don't mix them up, this engine is the A15)
Idle speed	Target 650 rpm . Confirmed adjustment procedure (p.MA-7): start, warm up, idle 2 min, race engine 2,000-3,000 rpm 2-3× no-load, return to idle, check/set ignition timing first, then set final idle speed to 650 rpm via the throttle adjusting screw.
Idle mixture	Factory-set, not normally adjustable — don't screw the idle mixture screw down fully, it can damage the tip

This engine’s rebuild spec (as ordered/measured)

Spec	Value
Bore	+.030 in over standard (2.990 in standard bore)
Main bearings	Standard (.000)
Rod bearings	Standard (.000)

Key part numbers identified

Component	Part number	Notes
Throttle & choke solenoid	7750000085	Grove — fits MZI45, MZ48B, MZ48BXT, MZ66B , AMZ40/40B/40XT w/ Nissan A-15 or Kubota WG750-B2. 6½" × 1½", 2-hole mount, 3 terminals (POS/NEG/AUX)
Limit switch (arm + roller)	7872001700	Grove — generic style used across multiple functions (boom angle, level, envelope)
Boom lowered limit switch ("SWITCH AND ARM, LIMIT")	7872001401	Grove — mounted at the rear of the turntable, under the boom base. Harness: 6512001903 ("HARNESS ASSEMBLY - LIMIT SWITCH"). See My Story — this is the switch whose wiring the mice got into.
A15 overhaul gasket set	10101-05H25	OEM
A15 main bearing set, standard	12207-H1000	OEM
A15 carburetor (gasoline)	16010-G5211	OEM
Nissan LPG solenoid valve (if dual-fuel equipped)	17962-00H05 / 17904-FC300 / 17904-FC001	Genuine Nissan — variant depends on series/year. "Nissan A-15 dual/fuel engine" was a listed factory option on the MZ48B/MZ66B per the sales brochure .
Hydraulic manifold ("electrically activated consolidated valve bank")	7926003166	Grove — the multi-function hydraulic manifold block, installed with the hydraulic filters and DC auxiliary power pack. See My Story .
— Coil, 12 volt	9926103487	One of several coils on the manifold above (catalog p.257)
— Coil	9926107771	Another coil on the same manifold (catalog p.261)
— Solenoid assy (2 per assembly)	9926106294	Same manifold (catalog p.260)

Component	Part number	Notes
— Cartridge and coil assembly	9926110847	Same manifold (catalog p.260)
— Valve assy, solenoid	9926106751	Same manifold (catalog p.257)
Gasoline fuel solenoid — circuit “SOL 24”	No separate Grove part number found	Confirmed by the actual electrical/hydraulic schematic , p.9, not just a parts diagram
Anti-diesel solenoid — circuit “SOL 27”	No separate Grove part number found	Same schematic page — cuts idle-circuit fuel on key-off to prevent dieseling/run-on
Filter assembly, oil return	7437000112	Parts catalog , p.249. No serial-effectivity break listed.
Filter assembly, hydraulic	7437000740	Parts catalog, p.249
Filter, fuel	7437000104	Parts catalog, p.139
Element, pressure filter	9437100642	Parts catalog, p.267
Element, oil return	9304100081	Parts catalog, p.265
Element, air cleaner	9304100091	Parts catalog, p.147