

Research

Grove MZ66B Manlift — Documentation & Diagnostic Research

This page consolidates the general research behind the rest of this site: where the manuals came from, where to source parts, and cross-validated engine specs. Every link below was independently found via search or direct page fetch — none are fabricated. Where a page could not be verified directly (blocked by bot protection, paywall, dead link), that is flagged explicitly so you know how much to trust it. For the diagnosis of the specific problems found on this particular machine and what's being done about them, see [My Story](#).

⚠ **Do not pay for anything below without calling the seller first to confirm what you'll actually receive** — several of the manual resellers show signs of being unverified scan/reprint operations (see §2.4).

📄 A follow-up pass found several genuine, complete, *free* manuals — a full illustrated MZ66B parts catalog, a T60/MZ66 Operators Safety and Maintenance Handbook, the Nissan A15 engine service manual, the model-exact sales brochure, and — hardest-won — the actual electrical/hydraulic schematic set. All are on the [Manuals](#) page. Start there before paying for anything in §2.

1. Equipment identification

Component	Identification	Confidence
Machine	Grove MZ66B — self-propelled telescoping-boom aerial work platform, ~66 ft working height, 500 lb unrestricted platform capacity, ~20,500 lb operating weight. Built by Grove Manlift (later part of Manitowoc), roughly 1987–1999.	High
Engine	Nissan A15 — 4-cylinder, water-cooled, gasoline, industrial/forklift-derived engine (also used by TCM and other forklift OEMs). Bore × stroke 76.0 × 82.0 mm (2.992 × 3.228 in), 1,487 cc, industrial compression ratio ~9.0:1. Engine S/N: 85029 .	High
Spark plugs	AC Delco R44T	As given
Rebuild spec (this unit)	Bore +.030" over, main bearings standard (.000) , rod bearings standard (.000)	As given

Two important **naming disambiguations** worth keeping in mind when searching further:

- **“Grindstaff Engines”** (grindstaffengines.com, Independence, MO) is a remanufactured-industrial-engine and rebuild-kit *supplier* — not the engine’s original manufacturer. The engine itself is a **Nissan A15**; Grindstaff sells rebuild kits and remanufactured long blocks for it.
- Don’t confuse the **MZ66B** (telescoping boom, this machine) with the **MZ66D/MZ66DXT** (different, later variant) or the **AMZ66/AMZ66XT** (articulating boom — different machine, different manual). Several manuals and forum threads online are for these look-alike model numbers — verify the exact model suffix before buying a manual.

2. Manuals & documentation

2.1 Official / rights-holder source — MinnPar

In May 2007, **MinnPar LLC** (Roseville, MN; subsidiary of PartsZone LLC) acquired from Manitowoc the rights to manufacture/sell replacement parts **and documentation** for the entire Grove Manlift aerial-platform line, including the MZ66B. Manitowoc transferred blueprints, engineering drawings, and records to them and now refers all Grove Manlift customers to MinnPar directly. This is the closest thing to an “official” current source.

- Website: <https://www.minnpar.com> ↗ (<https://www.minnpar.com>)
- Grove Manlift parts category: <https://www.minnpar.com/categories.aspx?make=grove+manlift> ↗ (<https://www.minnpar.com/categories.aspx?make=grove+manlift>)
- Contact form: <https://www.minnpar.com/site/contact.aspx> ↗ (<https://www.minnpar.com/site/contact.aspx>)
- **Phone: 1-800-889-3382** (confirmed via <https://www.allbiz.com/business/minnpar-llc-800-889-3382> ↗ (<https://www.allbiz.com/business/minnpar-llc-800-889-3382>))
- **Email: sales@minnpar.com**
- Fax: (612) 378-3741
- Full digital parts catalog (free flipbook viewer, covers MZ66B under “Telescoping Boom Lift,” pp. 44–77): https://fliphtml5.com/iablw/wnmc/Grove_Manlift_Catalog/ ↗ (https://fliphtml5.com/iablw/wnmc/Grove_Manlift_Catalog/) — mirrored on this site’s [Manuals](#) page
- Acquisition history/background: <https://vertikal.net/en/news/story/3954/minnpar-buys-grove-manlift-parts-business> ↗ (<https://vertikal.net/en/news/story/3954/minnpar-buys-grove-manlift-parts-business>) , <https://www.rermag.com/news-analysis/supply-side/article/20943340/minnpar-acquires-rights-to-make-and-sell-parts-for-manitowocs-grove-manlift-awp-line> ↗ (<https://www.rermag.com/news-analysis/supply-side/article/20943340/minnpar-acquires-rights-to-make-and-sell-parts-for-manitowocs-grove-manlift-awp-line>)

Per forum reports (unverified — call to confirm current price): MinnPar sells a Parts & Service manual for ~\$150, or ~\$239–280 for a full set including electrical and

hydraulic schematics, with a 2–3 week lead time. Figures conflict across sources/time, so **call 1-800-889-3382 and ask directly** — this is the best first call.

Note: **Manitowoc's own manuals portal** (<https://www.manitowoc.com/manuals> [↗] <https://www.manitowoc.com/manuals>) does **not** list the MZ66B or any Grove Manlift model — they exited that product line to MinnPar in 2007, so this isn't a source. **Genie** is unrelated (separate company, acquired by Terex in 2002) and has no MZ66B documentation.

2.2 Cheapest option — Tradebit (parts catalog only)

- **Grove Manlift MZ66B Parts Catalog Manual** — <https://www.tradebit.com/filedetail.php/282599202-grove-manlift-mz66b-parts-catalog-manual> [↗] <https://www.tradebit.com/filedetail.php/282599202-grove-manlift-mz66b-parts-catalog-manual> — **\$14.95**, instant PDF download. Covers engine, cooling, fuel system, transmission, axles, electrical, brakes, hydraulics, steering. Cheap enough to be worth trying first, though it's an unverified third-party reseller — no way to confirm completeness before buying.

2.3 Full manual set — DIY Repair Manuals (pricier, claims “factory”)

Category page: <https://diyrepairmanuals.com/product-category/construction/grove/crane-grove/mz66b-crane-grove/> [↗] <https://diyrepairmanuals.com/product-category/construction/grove/crane-grove/mz66b-crane-grove/>

Title	URL	Price
Shop Service Repair Manual	https://diyrepairmanuals.com/product/grove-mz66b-telescopic-boom-shop-service-repair-manual/ [↗] (https://diyrepairmanuals.com/product/grove-mz66b-telescopic-boom-shop-service-repair-manual/)	\$410.69
Electric Wiring Diagram Manual	https://diyrepairmanuals.com/product/grove-mz66b-telescopic-boom-electric-wiring-diagram-manual/ [↗] (https://diyrepairmanuals.com/product/grove-mz66b-telescopic-boom-electric-wiring-diagram-manual/)	\$384.18
Parts Catalog Manual	https://diyrepairmanuals.com/product/grove-mz66b-telescopic-boom-parts-catalog-manual/ [↗] (https://diyrepairmanuals.com/product/grove-mz66b-telescopic-boom-parts-catalog-manual/)	\$383.08
Owner Operator Maintenance Manual	https://diyrepairmanuals.com/product/grove-mz66b-telescopic-boom-owner-operator-maintanance-manual/ [↗] (https://diyrepairmanuals.com/product/grove-mz66b-telescopic-boom-owner-operator-maintanance-manual/)	\$383.06
Hydraulic Schematic Diagram Manual	https://diyrepairmanuals.com/product/grove-mz66b-telescopic-boom-hydraulic-schematic-diagram-manual/ [↗] (https://diyrepairmanuals.com/product/grove-mz66b-telescopic-boom-hydraulic-schematic-diagram-manual/)	\$380.39

Caveat: pricing is unusually high and uniform across unrelated equipment on this site — a pattern associated with drop-ship “manual” operations of uncertain legitimacy. Call the number on their site before paying, and confirm exactly what format/content you’ll receive.

2.4 eBay / Scribd (physical or scanned copies)

- Grove MZ66B Crane Boom Lift Safety Owner Operator Maintenance Manual — <https://www.ebay.com/itm/256981648906> [↗] (<https://www.ebay.com/itm/256981648906>) — ~\$167.70, physical copy, free Media Mail shipping
- Grove MZ66B Aerial Work Platform Owner Operator & Safety Manual — <https://www.ebay.com/itm/256416961782> [↗] (<https://www.ebay.com/itm/256416961782>) — price unconfirmed

- General eBay search: https://www.ebay.com/sch/Business-Industrial-/12576/i.html?_frs=1&_nkw=grove+manlift+manual&_sop=1 [↗] (https://www.ebay.com/sch/Business-Industrial-/12576/i.html?_frs=1&_nkw=grove+manlift+manual&_sop=1)
- Grove Manlift Operator and Maintenance Book (T60/MZ66/T60XT/MZ66XT family) — <https://www.scribd.com/document/618200170/Grove-Manlift-Operator-and-Maintenance-Book-t60-Mz66-t60xt-Mz66xt> [↗] (<https://www.scribd.com/document/618200170/Grove-Manlift-Operator-and-Maintenance-Book-t60-Mz66-t60xt-Mz66xt>) — Scribd paywall; not confirmed to cover the “B” revision specifically.

Avoid: commillrater.wordpress.com/.../grove-mz66b-parts-manual.pdf (only 35KB — almost certainly SEO-bait, not a real catalog) and any manual link on unrelated/government domains that shows up in search.

2.4b Update — free manuals actually obtained

Several of the “paid only” items above turned out to be retrievable for free after all — see the [Manuals](#) page for the actual files and full provenance on each:

- **MZ66B Parts Catalog** (400 pages) — genuine illustrated parts catalog, via Internet Archive.
- **Operators Safety and Maintenance Handbook** — genuine Grove operator/safety/maintenance handbook, via Internet Archive.
- **MinnPar Replacement Parts Catalog** (120 pages) — MinnPar’s current official parts catalog with photos, via their FlipHTML5 flipbook’s Print feature.
- **Nissan A12 & A15 Engine Service Manual** (91 pages) — the actual Nissan factory engine service manual, via a FlipHTML5 flipbook.
- **MZ48B/MZ66B Sales Brochure** (6 pages) — genuine Grove factory sales brochure for this exact model pair, via Scribd’s free in-browser preview. **This is the single most model-specific document found** — its spec table is headed “MZ66B” by name, unlike every other source in this document. Its drive-speed/gradeability figures supersede the ones pulled from the T60/MZ66 handbook — see [Top Speed](#).

2.5 Community / forums

heavyequipmentforums.com blocks automated fetching, so open these directly in a browser:

- General MZ66B threads: <https://www.heavyequipmentforums.com/threads/grove-mz66b.24956/> ↗ (<https://www.heavyequipmentforums.com/threads/grove-mz66b.24956/>) , <https://www.heavyequipmentforums.com/threads/grove-mz66b.21253/> ↗ (<https://www.heavyequipmentforums.com/threads/grove-mz66b.21253/>) , <https://www.heavyequipmentforums.com/threads/grove-mz66b.31564/> ↗ (<https://www.heavyequipmentforums.com/threads/grove-mz66b.31564/>)
- **Swing controller electrical troubleshooting** (2 pages, also where MinnPar pricing was reported): <https://www.heavyequipmentforums.com/threads/grove-manlift-mz66b-swing-controller.40021/> ↗ (<https://www.heavyequipmentforums.com/threads/grove-manlift-mz66b-swing-controller.40021/>)
- **Manual sourcing thread**: <https://www.heavyequipmentforums.com/threads/grove-mz66-manuals.36469/> ↗ (<https://www.heavyequipmentforums.com/threads/grove-mz66-manuals.36469/>)
- **Throttle solenoid / won't-idle thread (directly relevant — see [My Story](#))**: <https://www.heavyequipmentforums.com/threads/grove-amz-manlift-will-not-idle-throttle-solenoid-operation-problem.64624/> ↗ (<https://www.heavyequipmentforums.com/threads/grove-amz-manlift-will-not-idle-throttle-solenoid-operation-problem.64624/>)
- Articulating-boom basket-control troubleshooting (different model, AMZ-66, but same control architecture family): <https://www.heavyequipmentforums.com/threads/grove-amz-66-manlift-looking-for-help-troubleshooting-basket-controls.39143/> ↗ (<https://www.heavyequipmentforums.com/threads/grove-amz-66-manlift-looking-for-help-troubleshooting-basket-controls.39143/>) (pages 2–4 via [/page-2](#) , [/page-3](#) , [/page-4](#))
- JustAnswer: hydraulic motor lugging on MZ66B — <https://www.justanswer.com/industrial-equipment/psyfe-grove-man-lift-mz66b-problems-sure.html> ↗ (<https://www.justanswer.com/industrial-equipment/psyfe-grove-man-lift-mz66b-problems-sure.html>)

Reported common issues on this platform (from forum snippets): sluggish boom-lower/drive traced to hydraulic pump/valve wear or low or contaminated fluid; no-start after reversed battery polarity requiring relay-board repair; basket control failures traced to interlock switches and relay panels.

3. Nissan A15 engine — specs & rebuild reference

3.1 Manuals

Title	Source	URL	Price
TCM Shop Manual for Nissan "A15" gasoline engine (No. ME-A15AE) — dedicated single-engine factory manual	eBay	https://www.ebay.com/itm/285117187750 ↗ (https://www.ebay.com/itm/285117187750) , https://www.ebay.com/itm/126628875580 ↗ (https://www.ebay.com/itm/126628875580)	~\$34-80
Nissan A12 & A15 Industrial Engine Shop Service Repair Manual	eBay	https://www.ebay.com/itm/256404928248 ↗ (https://www.ebay.com/itm/256404928248)	\$113.58
Nissan Model A15, Z24, SD25 Engines Service Manual	eBay	https://www.ebay.com/itm/Nissan-Model-A15-Z24-SD25-Engines-Service-Manual-/173321452577 ↗ (https://www.ebay.com/itm/Nissan-Model-A15-Z24-SD25-Engines-Service-Manual-/173321452577)	not confirmed
Nissan A12-A15 Manual (91pp scan)	Scribd	https://www.scribd.com/document/788981984/Nissan-a12-A15-Manual ↗ (https://www.scribd.com/document/788981984/Nissan-a12-A15-Manual)	paywalled

The TCM ME-A15AE manual is the best single find not already obtained — it's a factory manual dedicated solely to this engine (TCM used the A15 in their own forklifts).

3.2 Engine specs (cross-validated across engine-specs.net and Grindstaff)

Spec	Value
Bore × stroke	76.0 × 82.0 mm (2.992 × 3.228 in) — matches the +.030" kit against a 2.990" standard bore
Displacement	1,487 cc
Compression ratio (industrial)	~9.0:1
Head bolt torque	51–58 ft-lb
Main bearing cap torque	36–43 ft-lb
Rod bearing (big-end) torque	23–27 ft-lb
Valve clearance, hot	0.014 in (0.35 mm), intake & exhaust
Firing order	1-3-4-2, distributor rotates counter-clockwise
Oil capacity	3.3 L w/filter, 2.8 L w/o
Factory spark plug gap	Confirmed from the actual Nissan factory manual (p.MA-9): 0.031–0.035 in (0.8–0.9 mm). This superseded an earlier engine-specs.net estimate of 0.039–0.043 in once the real factory manual was obtained — see the engine service manual and Specs .

Sources: <https://www.engine-specs.net/nissan/a15.html> [↗] (<https://www.engine-specs.net/nissan/a15.html>) , <https://www.grindstaffengines.com/specs.html> [↗] (<https://www.grindstaffengines.com/specs.html>)

Firing order source: <https://ratsun.net/topic/23669-what-is-the-firing-order-for-a15/> [↗]
(<https://ratsun.net/topic/23669-what-is-the-firing-order-for-a15/>)

3.3 Grindstaff Engines — rebuild kit

- Product page: <https://www.grindstaffengines.com/nissan.html> [↗]
(<https://www.grindstaffengines.com/nissan.html>) — lists a remanufactured A15 long block and an “A-15 Rebuild Kit” (pistons, rings, main/rod/cam bearings, gasket set, valves, guides, timing chain and gears, tensioners, valve springs). **No prices or oversize options published online** — call for a quote referencing the +.030"/std-mains/std-rods spec.
- Contact: 1041 S. Vista Ave, Independence, MO 64056 · **816-796-7676** · Fax 816-796-6053

3.4 Parts (gaskets, bearings, carb)

- A15 O/H gasket set (OEM 10101-05H25):
<https://forkliftengineparts.com/product/a15-nissan-oh-gasket-set/> [↗]
(<https://forkliftengineparts.com/product/a15-nissan-oh-gasket-set/>) — \$104.21
- A15 main bearing set, standard (OEM 12207-H1000):
<https://forkliftengineparts.com/product/a15-nissan-main-bearing-set-std/> [↗]
(<https://forkliftengineparts.com/product/a15-nissan-main-bearing-set-std/>) — \$66.07 (confirms standard mains are a normal stocked size)
- Full engine kit (metric oversize increments — verify against the inch-based spec before ordering): <https://forkliftengineparts.com/product/nissan-engine-kit-for-a15-engine/> [↗]
(<https://forkliftengineparts.com/product/nissan-engine-kit-for-a15-engine/>) — \$543.00
- Carburetor, gasoline, OEM 16010-G5211: <https://www.amazon.com/Carburetor-Compatible-Nissan-16010-G5211-Engine/dp/B0DTGPRDS2> [↗]
(<https://www.amazon.com/Carburetor-Compatible-Nissan-16010-G5211-Engine/dp/B0DTGPRDS2>)
- Electronic distributor (fits A10/A12/A13/A14/A15):
<https://www.walmart.com/ip/Electronic-Distributor-For-Nissan-Datsun-B110-B210-B120-B310-Pickup-A10-A12-A13-A14-A15-Engine/577959377> [↗]
(<https://www.walmart.com/ip/Electronic-Distributor-For-Nissan-Datsun-B110-B210-B120-B310-Pickup-A10-A12-A13-A14-A15-Engine/577959377>)
- Carburetor rebuild discussion: <https://ratsun.net/topic/18671-a15-carburetor/> [↗]
(<https://ratsun.net/topic/18671-a15-carburetor/>)

Important — the A15 commonly ran dual-fuel (gasoline + LPG). Evidence: Nissan's FCG15N7 forklift model paired an A15 with an IMPCO I125 propane mixer (<https://store.nashfuel.com/products/nissan-fcg15n7-a15-propane-carburetor-i125-mixer>) [↗] (<https://store.nashfuel.com/products/nissan-fcg15n7-a15-propane-carburetor-i125-mixer%29>), and genuine Nissan LPG solenoid valve part numbers exist for A15-equipped trucks (17962-00H05, 17904-FC300, 17904-FC001). **Confirmed directly for this machine's model line:** the [MZ48B/MZ66B sales brochure](#) lists “Nissan A-15 dual/fuel engine” as a factory-offered option, right alongside the alternative Deutz diesel option. This is directly relevant to the hydraulic-line coil diagnosis in [My Story](#).

4. What this means for this specific machine

See [My Story](#) for the diagnosis built from everything above — which specific parts and schematics resolve each issue found on inspection — and what's being done about the one that's still genuinely open.