WORKSHOP MANUAL

NHR, NKR, NPR, NQR, NPS

BRAKES

SECTION 5

ISUZU

ISUZU
International Service & Parts
Tokyo, Japan

NOTICE

Before using this Workshop Manual to assist you in performing vehicle service and maintenance operations, it is recommended that you carefully read and thoroughly understand the information contained in Section-0A under the headings "GENERAL REPAIR INSTRUCTIONS" and "HOW TO USE THIS MANUAL".

Applicable Model

N Series		
NHR55	NPR58	NPS66
NHR69	NPR59	NPS71
NKR55	NPR65	NQR66
NKR58	NPR66	NQR70
NKR66	NPR69	NQR71
NKR69	NPR70	
NPR55	NPR71	

This manual is applicable to 1994 year model and later vehicles.

THIS MANUAL INCLUDES THE FOLLOWING SECTIONS:

SECTION NO.	CONTENTS
00	Service Information
5A	Hydraulic Brakes
5B	—
5C	Parking Brakes
5D	—
5E	Exhaust Brake

SECTION 00
SERVICE INFORMATION

CONTENTS

MEMO

TROUBLESHOOTING

CONTENTS

BRAKE SYSTEM

PROBLEM	POSSIBLE CAUSE	CORRECTION
No Brakes	1. Restricted tubing or hose. 2. Brakes out of adjustment. 3. No fluid.	1. Replace defective parts. 2. Adjust.
Insufficient Brakes	1. Pedal improperly adjusted. 2. Worn linings/pads or drum/discs. 3. Plugged, crimped, restricted lines or hoses.	1. Adjust. 2. Replace as necessary. 3. Repair or replace.
Slow Brake Application	1. Pedal binding. 2. Wheel cylinder piston sticking. 3. Restriction in the lines. 4. Worn linings/pads or drums/discs.	1. Lubricate pivot pin, clean-check for foreign objects. 2. Repair the wheel cylinder. 3. Remove the restriction or replace the line. 4. Replace as necessary.
Uneven Braking (Front or Rear Brakes not Working)	1. Damaged hydraulic lines. 2. No brake fluid at the master cylinder. 3. Safety valve not opened.	1. Repair or replace. 2. Check for plugged, kinked or damaged hose to the reservoir. 3. Correct.
Wet Weather: Brakes Grab or won't Hold	1. Linings too sensitive to water. 2. Dirty brakes. 3. Bent mounting plate – opening. 4. Scored drums/discs.	1. Replace in axle sets. 2. Clean out. 3. Replace. 4. Machine in pairs. Replace if necessary.
Brakes Squeak	1. Mounting plate bent or shoes twisted. 2. Metallic particles or dust imbedded in the lining. 3. Lining rivets loose or lining not held tightly against the shoe at the ends. 4. Drums distorted tampered, or not square. 5. Incorrect lining/pad. 6. Mixed size linings. 7. Weak or broken return spring. 8. Loose wheel bearings. 9. Loose mounting plate, drum, wheel cylinder. 10. Linings/pads located wrong on the shoes. 11. Linings/pads worn out. 12. Lining glazed. 13. Cracked or threaded drums/discs.	1. Replace damaged parts. 2. Replace the linings/pads in axle sets. 3. Replace the rivets and/or tighten the lining by riveting. 4. Machine or replace drums/discs. 5. Replace the linings/pads in axle sets. 6. Use all standard or oversize linings in a brake. 7. Replace the return spring. 8. Tighten to the proper setting. 9. Tighten. 10. Install the linings correctly. 11. Reline the brakes. 12. Replace. 13. Replace in axle pairs.
Brakes Chatter	1. Incorrect lining/pad to drum/disc clearance. 2. Loose mounting plate. 3. Grease, fluid, road dust on the lining pad. 4. Weak or broken return spring. 5. Loose wheel bearings. 6. Drums out-of-round.	1. Adjust to specification. 2. Tighten securely. 3. Clean or reline. 4. Replace the return spring. 5. Readjust. 6. Machine the drums in axle sets.

BRAKE SYSTEM (CONT.)

PROBLEM	POSSIBLE CAUSE	CORRECTION
Brakes Chatter (Cont.)	7. Discs warped. 8. Cocked or distorted shoes. 9. Distorted, tapered, or barrel-shaped drums. 10. Incorrect lining/pad material. 11. Linings/pads worn out. 12. Lining loose on the shoes. 13. Foreign material imbedded in the linings/pads. 14. Cracked or threaded drums/discs.	7. Machine the discs in axle sets. 8. Straighten or replace. 9. Machine drums in pairs. Replace if necessary. 10. Reline with correct linings/pads. 11. Reline the brake. 12. Rerivet the linings to the shoes. Replace if necessary. Check for damaged or distorted shoes. 13. Replace the linings/pads in axle sets. 14. Replace in axle pairs.
Shoe Click	1. Return spring weak. 2. Shoe bent.	1. Replace the spring. 2. Straighten or replace.
Noise and Chatter Squealing, clicking, or scraping sound upon brake application	1. Bent, damaged or incorrect shoes. 2. Worn out lining/pad. 3. Foreign material embedded in the lining/pad. 4. Broken shoe return spring. 5. Cracked or threaded drums/discs (lathe marks).	1. Replace with the correct shoes and lining. Always replace in axle sets. 2. Replace the shoes and lining/pad in axle sets. 3. Replace the shoes and lining/pad in axle sets. 4. Replace the return spring. 5. Replace the drums/discs in axle sets.
Pulls to One Side	1. Grease or fluid soaked lining/pad. 2. Loose wheel bearings, loose (or distorted) mounting plate on the rear or front axle or loose spring bolts. 3. Linings/pads not of the recommended kind. 4. Tires not properly or evenly inflated or unequal wear of tread. Different tread non-skid design. 5. Water, mud, etc., in the brakes. 6. Wheel cylinder sticking. 7. Weak or broken shoe return spring. 8. Out-of-round drums or different sized drums on the same axle. 9. Brake dragging. 10. Weak chassis springs, loose U-bolts, loose steering gear, etc. 11. Loose steering. 12. Unequal camber. 13. Restricted brake line or hose.	1. Replace in axle sets. 2. Adjust the wheel bearing, tighten (or replace) the mounting plate to the axle and tighten the spring bolts. 3. Install recommended linings/pads. Install the shoes correctly. 4. Inflate the tires to recommended pressures. Rearrange the tires so that a pair of non-skid tread surfaces of similar design and equal wear will be installed on the front wheels, and another pair with like tread will be installed on the rear wheels. 5. Remove any foreign material from all of the brake parts and inside of the drums. 6. Repair or replace the wheel cylinder. 7. Check the spring-replace distorted, open coiled, or cracked spring. 8. Refinish or replace the drums in axle pairs. 9. Check for loose lining. Adjust. (Refer to "DRAGGING BRAKES".) 10. Replace the spring, tighten the U-bolts, adjust the steering gear, etc. 11. Repair and adjust. 12. Adjust to "Specifications". 13. Check for soft hose or damaged lines. Replace as necessary.

BRAKE SYSTEM (CONT.)

PROBLEM	POSSIBLE CAUSE	CORRECTION
Pulls to One Side (Cont.)	14. Wheel cylinder size different on opposite sides. 15. Loose kingpin. 16. Distorted, damaged, or scored drum/disc. 17. Front end alignment. 18. Excessively worn lining/pad. 19. Uneven adjustment of brake lining clearance. 20. Water/wet linings.	14. Replace with correct cylinders. 15. Replace the kingpins or bushing. 16. Refinish the drums/discs in axle pairs. Replace if necessary. 17. Align the front end. 18. Replace in axle sets. 19. Adjust the brake lining clearance in all wheels. 20. Apply the brakes a few times while moving at a slow speed to dry the linings.
One Wheel Locks	1. Gummy lining/pad. 2. Tire tread slick. 3. Brake adjustment not correct. 4. Restricted brake line or hoses. 5. Incorrect linings/pads. 6. Grease or fluid soaked lining/pads. 7. Foreign material in the brakes.	1. Replace in axle sets. 2. Match up tire treads from side to side. 3. Adjust the brakes. 4. Check for soft hoses or damaged lines. Replace as necessary. 5. Replace. Linings/pads must be the same on the axle. 6. Replace in axle sets. 7. Remove the material.
Light Pedal Pressure-Brakes too Severe (Grabby Brakes)	1. Brake adjustment not correct. 2. Loose mounting plate on the front axle. 3. A small amount of grease or fluid on the lining/pad. 4. Incorrect lining/pad. 5. Wheel bearings loose. 6. Lining loose on the shoe. 7. Excessive dust and dirt in the drum. 8. Out-of-round drum.	1. Adjust the brakes. 2. Tighten the plates. 3. Replace the linings/pads. 4. Install factory specified linings/pads. 5. Adjust the wheel bearings. 6. Replace the lining or the shoe and lining. 7. Clean and sand the drums and linings. 8. Turn the drums in pairs or replace.
Low Pedal or Pedal Goes to Floor	1. Excessive clearance between the linings and drum. 2. Pedal stop not adjusted, or missing. 3. Weak break hose. 4. Leaking wheel cylinder. 5. Air in the hydraulic system. 6. Improper brake fluid (low boiling point). 7. Low fluid level. 8. Bent or distorted brake shoes. 9. Leaks at hydraulic line connections.	1. Adjust the brakes. 2. Adjust or install the pedal stop. 3. Replace with new hose. 4. Clean and rebuild. 5. Bleed the hydraulic system. 6. Flush the sytem and refill with recommended brake fluid. 7. Fill the reservoir with brake fluid; check for leaks and bleed system. 8. Replace in axle sets. 9. Check for hydraulic leaks and repair.

BRAKE SYSTEM (CONT.)

PROBLEM	POSSIBLE CAUSE	CORRECTION
Slow Brake Release	1. Foot pedal binding. 2. Restriction in the line. 3. Weak shoe return spring.	1. Lubricate the pivot pin; clean-check for foreign objects. 2. Remove the restriction or replace line. 3. Replace the spring.
Poor Assist or Loss of Assist	1. Low brake fluid level. 2. Air in the hydraulic system. 3. Weak brake hose. 4. Loss of vacuum. 5. No brake fluid at the master cylinder.	1. Fill the reservoir to the proper level. Bleed the system. 2. Locate the source of the air leak and repair. Bleed the system. 3. Replace. 4. Inspect for vacuum leaks or malfunctioning pump. Repair or replace as necessary. 5. Check for plugged, kinked, or damaged hose to the reservoir.
Brake Fade	1. Incorrect lining/pad. 2. Poor lining/pad contact. 3. Thin drum. 4. Dragging brakes. 5. All conditions listed under "PULLS TO ONE SIDE".	1. Replace with recommended lining/pad. 2. Grind the lining/pad to the proper radius; adjust. 3. Replace the drum. 4. Adjust. 5. All corrections listed under "PULLS TO ONE SIDE".
All Brakes Drag when Adjustment is Known to be Correct	1. Pedal does not return to stop. 2. Improper fluid. 3. Use of incorrect rubber parts.	1. Lubricate the pedal linkage; adjust the pedal. 2. Replace rubber parts and fill with the recommended brake fluid. 3. Install the proper parts.
One Wheel Drags	1. Weak or broken shoe return spring. 2. Brake shoe to drum clearance too small. 3. Loose wheel bearings. 4. Wheel cylinder piston cups swollen and distorted or piston stuck. 5. Pistons sticking in the wheel cylinder. 6. Drum out-of-round. 7. Disc warped. 8. Restricted brake line or hose. 9. Distorted shoe. 10. Defective lining/pad. 11. Loose or bent mounting plate. 12. Loose calipers.	1. Replace the return spring. 2. Adjust to specification. 3. Adjust or replace the wheel bearings. 4. Rebuild the cylinders. Flush the hydraulic system and fill with recommended fluid. 5. Clean or replace the pistons; clean the cylinder bore. 6. Machine the drum. 7. Machine the disc. 8. Check for soft hoses or damaged lines. Replace as necessary. 9. Replace. 10. Replace with the recommended lining/pad. 11. Tighten the fasteners; replace the plate. 12. Tighten the fasteners.

BRAKE SYSTEM (CONT.)

PROBLEM	POSSIBLE CAUSE	CORRECTION
Dragging Brakes	1. Improper fluid. 2. Brake pedal adjustment incorrect. 3. Incorrect shoe return spring. 4. Brake pedal linkage interference or binding. 5. Incorrect lining/pad. 6. All conditions listed under "ONE WHEEL DRAGS".	1. Flush the hydraulic system and fill with recommended brake fluid, and replace rubber components. 2. Adjust the pedal. 3. Replace the shoe return spring. 4. Free the linkage and lubricate. 5. Replace the linings/pads. 6. All corrections under "ONE WHEEL DRAGS".

HYDRAULIC BOOSTER

PROBLEM	POSSIBLE CAUSE	CORRECTION
Large force pressing on the brake pedal (boosting insufficient)	1. Booster operation insufficient • Large internal leakage • Sticking of the spool valve • Insufficient sliding around the input and output rods	• With the engine on, press the brake pedal repeatedly, and confirm the presence of manual operation. With regard to manual operation, turn the engine off, and judge whether the pedal is as stiff and its play is as small as when the pedal is pressed repeatedly ten times or more. • When there is manual operation, the hydro boost assembly is replaced.
Brake dragging	1. Bad dimensions of the booster • The amount of protrusion of the output rod is large	• Confirm whether the amount of protrusion of the output rod (the distance from surface of the master cylinder attachment flange to the end of the rod) is no greater than 18.2 mm. • If the above dimension is outside the range, replace the hydro boost assembly.
	2. Bad pedal circumference attachment dimensions • Clevis position dimension is large	• Confirm whether the clevis position dimension (the distance from surface of the vehicle attachment flange to the center of the clevis center) is in the range 109 ± 1mm. • If the above dimension is outside the range, loosen the lock nut and adjust the clevis position dimension to be inside the above range. After making this adjustment, be sure to securely tighten the lock nut and to do a stop lamp switch reconfirmation.
	3. Booster return is bad • Input-output rod circumference sticks • Bad spool valve operation	• With the engine on, repeatedly press the brake pedal and confirm the pedal return state. • If the pedal does not return, replace the hydro boost assembly as necessary.

HYDRAULIC BOOSTER (CONT.)

PROBLEM	POSSIBLE CAUSE	CORRECTION
Oil leakage	1. Hydro boost assembly external leakage • Leakage from the seal material	• If the oil leakage is caused by looseness in the piping connections, retighten the connections. • If there is oil leakage from the connections of the accumulator, replace the affected seals of the connections with new seals. • If there is any oil leakage from parts other than the above that are included in the hydro boost assembly, replace the hydro boost assembly or the repair setting parts (accumulator).
Bad brake operation (lack of smoothness in operation)	1. Poor operation of the booster • Input-output rod circumference sticks • Bad spool valve operation	• With the engine on, repeatedly press the brake pedal and confirm the pedal operation state. • If there is sticking or some other abnormality in the pedal operation, replace the hydro boost assembly as necessary.
Abnormal brake noise (when pressing the pedal)	1. Air in the hydraulic booster lines	• With the engine running, check the amount of hydraulic flud remaining in the reserve tank for the hydraulic booster. • If low, add fluid (Besco ATF III) and bleed to remove air as necessary before starting the engine. Operate the pump and repeatedly step on the pedal to confirm the gear noise (caused by cavitation).
	2. Water in the hydraulic fluid	• Check the color of the hydraulic fluid in the reserve tank for the hydraulic booster (normal: purple, abnormal: milky white). • If the hydraulic fluid is milky white, change the fluid (Besco ATF III) and bleed to remove air as necessary before starting the engine. Operate the pump and strongly press the pedal until reaching full boost range to confirm the gear noise (caused by cavitation). The length of time to keep the pedal pressed all the way down is no more than five seconds.
No pedal boosting effect immediately after turning the engine off	1. Faulty charge valve • Gas leaking from the accumulator • Leakage inside the charge valve	• Keep the engine running for more than 10 seconds. Turn off the engine, and within 60 seconds, step on the pedal once to confirm boosting effect. Boosting effect means the same pedal effort if the engine was running. • If boosting effect does not exist, either the hydraulic booster assembly or the accumulator may need to be replaced.

HYDRAULIC BOOSTER (CONT.)

PROBLEM	POSSIBLE CAUSE	CORRECTION
Warnng buzzer continuously sounds	1. Faulty hydraulic booster assembly • Faulty pressure switch • Leakage inside the charge valve	• Confirm that the electric devices (pressure switch, relay, buzzer, etc.) are working correctly. • If all are working correctly, pump the brake pedal at least 10 times after turning the engine off to reduce pressure in the hydraulic booster. Start the engine, and if the vehicle has a manual transmission, release the parking brake (with an automatic, put it in Drive). Check to see if the alarm stops within ten seconds (if it does, the electrical devices are working properly). • When testing the electrical devices, always keep your foot on the brake pedal with just enough pressure to prevent the vehicle from moving. If the alarm does not stop, the hydraulic booster assembly may have to be replaced.
Charge operation remains in effect	1. Bad charge valve operation • Bad valve switching operation	• Turn the engine on, and without pressing the brake pedal, check whether any charging sound continues, such as the sound of the fluid. • If it continues and will not stop, replace the hydro boost assembly as necessary.

NOTES

1. When the brake pedal is operated after the engine is turned off and the oil pump stops, during a few operations a fluid sound due to the flow of high-pressure oil or a sound of movement by the charge spool may be produced, but this sound is not abnormal; it merely indicates that boosting by the accumulator (accumulator operation) is proceeding normally.
   Also, a similar fluid sound is produced during quick operation of the brake pedal even if the engine is on, but this too is normal.
2. If the pressure of the oil in the accumulator drops with operation of the brake pedal after the engine is turned off or when the engine has been off for a long time, then immediately after the engine is turned on, fluid sound during charge valve operation or switching sound when charging ends will be produced, but this sound is not abnormal; it merely indicates that the accumulator is being normally charged.
   Also, a similar charging operation sometimes occurs and sound is sometimes produced when the pressure inside the accumulator drops even when the engine is on and charging has ended, due to such causes as rapid operation of the brake pedal, internal leakage that is too slight to affect brake performance, or a change in temperature; this too is normal.
3. When the brake pedal is pressed strongly as far as the booster full load region while the engine is on, sometimes sound is produced by the flow of hydraulic oil discharged from the oil pump, but this is not abnormal. Also, pressing the pedal in as far as this booster full load region can cause a significant increase in the oil temperature inside the oil pump and can lead to a failure, so keep the pedal pressed for no longer than 5 seconds.

BRAKE LINING

PROBLEM	POSSIBLE CAUSE	CORRECTION
Poor Contact at the Center of Shoe	1. Bell-mouthed drum. 2. Distorted mounting plate. 3. Bent brake shoe. 4. Undersize linings. 5. Loose wheel bearing.	1-5. Repair or replace as required.
Unequal Wear on the Shoes in the Same Brake	1. Brake linings not a balanced set. 2. Sticking wheel cylinder piston.	1-2. Repair or replace as required.
Material at the Center of the Shoe Excessively Thin	1. Undersize linings. 2. Oversize drum.	1-2. Repair or replace as required.
Lining Tapered across the Width	1. Bell-mouthed drum. 2. Bent shoe. 3. Distorted mounting plate.	1-3. Repair or replace as required.
Lining Worn at One End	Bent mounting plate.	Repair or replace as required.
Linings Glazed	1. Grease on lining. 2. Wrong type lining for service involved.	1-2. Repair or replace as required.
Rivets Tear Loose	1. Improper set rivet. 2. Improper setting of the rivet. 3. Enlarged rivet holes in the shoe.	1-3. Repair or replace as required.
Unequal Wear Opposite Brakes, Same Axle	1. Weak shoe return spring. 2. Obstructed hydraulic line. 3. Stuck wheel cylinder piston. 4. Brake drum surface in poor condition. 5. Loose wheel bearing.	1-5. Repair or replace as required.
Linings at Scored	1. Scored drum. 2. Abrasive material between the lining and drum.	1-2. Repair or replace as required.
Cracks at Rivet Holes	1. Wrong type rivets. 2. Rivets not properly set. 3. Dirt or rust on the shoe table. 4. Wrong size lining.	1-4. Repair or replace as required.
Elongation of the Rivet Holes	1. Loose rivets. 2. Wrong size rivets.	1-2. Repair or replace as required.
Wear on the Edge of the Lining	1. Wrong width lining. 2. Holes improperly drilled. 3. Loose wheel bearing. 4. Bent shoe.	1-4. Repair or replace as required.
Groove on the Edge of the Lining	1. Lining too wide. 2. Worn drum.	1-2. Repair or replace as required.

BRAKE DRUM

PROBLEM	POSSIBLE CAUSE	CORRECTION
Brake Drum Heat Checked in Spots	1. Out-of-round brake drum. 2. Eccentric mounting of the drum. 3. Loose wheel bearing.	1-3. Repair or replace as required.
Drum Uniformly Heat Checked	1. Improper friction materials. 2. Overworked brake. 3. Driver abuse.	1-3. Repair or replace as required.
Excessive Scoring of the Drum	1. Improper friction materials. 2. Overworked brake. 3. Abrasive material between the lining and drum. 4. Soft drum. 5. Bent or warped shoe.	1-5. Repair or replace as required.
Excessive Drum Cracks	1. Drive abuse. 2. Weak drum. 3. Wrong friction material. 4. Overworked brake.	1-4. Repair or replace as required.

EXHAUST BRAKE

PROBLEM	POSSIBLE CAUSE	CORRECTION
Exhaust Brake does not Operate	1. Blown fuse. 2. Improperly adjusted or faulty accelerator or clutch switches. 3. Poor connections or corroded terminals at switches or control valve. 4. Improperly adjusted or seized exhaust brake valve. 5. Vacuum lines kinked, restricted, or plugged with ice. 6. Seized vacuum chamber. 7. Valve linkage broken. 8. Chamber or control valve jammed with ice. 9. Faulty control valve. Valve should open when approximate battery(s) voltage is applied to terminals. 10. Faulty vacuum chamber. 11. Broken wire in wiring harness.	1. Replace. 2. Adjust or replace. 3. Clean or replace. 4. Adjust, or repair. 5. Repair. 6. Repair. 7. Repair. 8. Melt ice, Drain lines of water. 9. Replace. 10. Replace. 11. Repair.
Exhaust Brake Slow to Operate	1. Tighten exhaust brake valve or linkage. 2. Improperly adjsuted accelerator or clutch switches.	1. Free up and lubricate. 2. Adjust.
Weak Braking Action	1. Improperly adjusted or tight exhaust brake valve. 2. Tight linkage. 3. Vacuum lines kinked or partially plugged with ice. 4. Leaking fittings at vacuum lines. 5. Leaky vacuum chamber.	1. Free up and/or adjust. Lubricate as needed. 2. Free up and lubricate. 3. Repair. 4. Tighten. 5. Replace.
Exhaust Brake will not Shut Off (Exhaust Brake Control Switch "Off")	1. Seized exhaust brake valve or linkage. 2. Control valve or chamber jammed with ice. 3. Short in wiring harness (approximate battery(s) voltage at control solenoid regardless of control switch position. 4. Faulty control switch.	1. Free up and lubricate. 2. Melt ice and drain lines. 3. Repair. 4. Replace.
Exhaust Brake "On Continuously when Exhaust Brake Control Switch is "On" (not Controlled by Clutch or Accelerator Switches)	1. Improperly adjusted clutch or accelerator switches. 2. Switches improperly wired. 3. Short in wiring harness.	1. Adjust. 2. Check wiring against wiring diagram. Repair as needed. 3. Repair.
Engine Overheats or Loses Power	1. Engine brake valve stuck partially closed. 2. Engine brake valve adjusted so that it is partially closed.	1. Free up and lubricate or replace. 2. Adjust.

PARKING BRAKES

INSUFFICIENT BRAKING FORCE

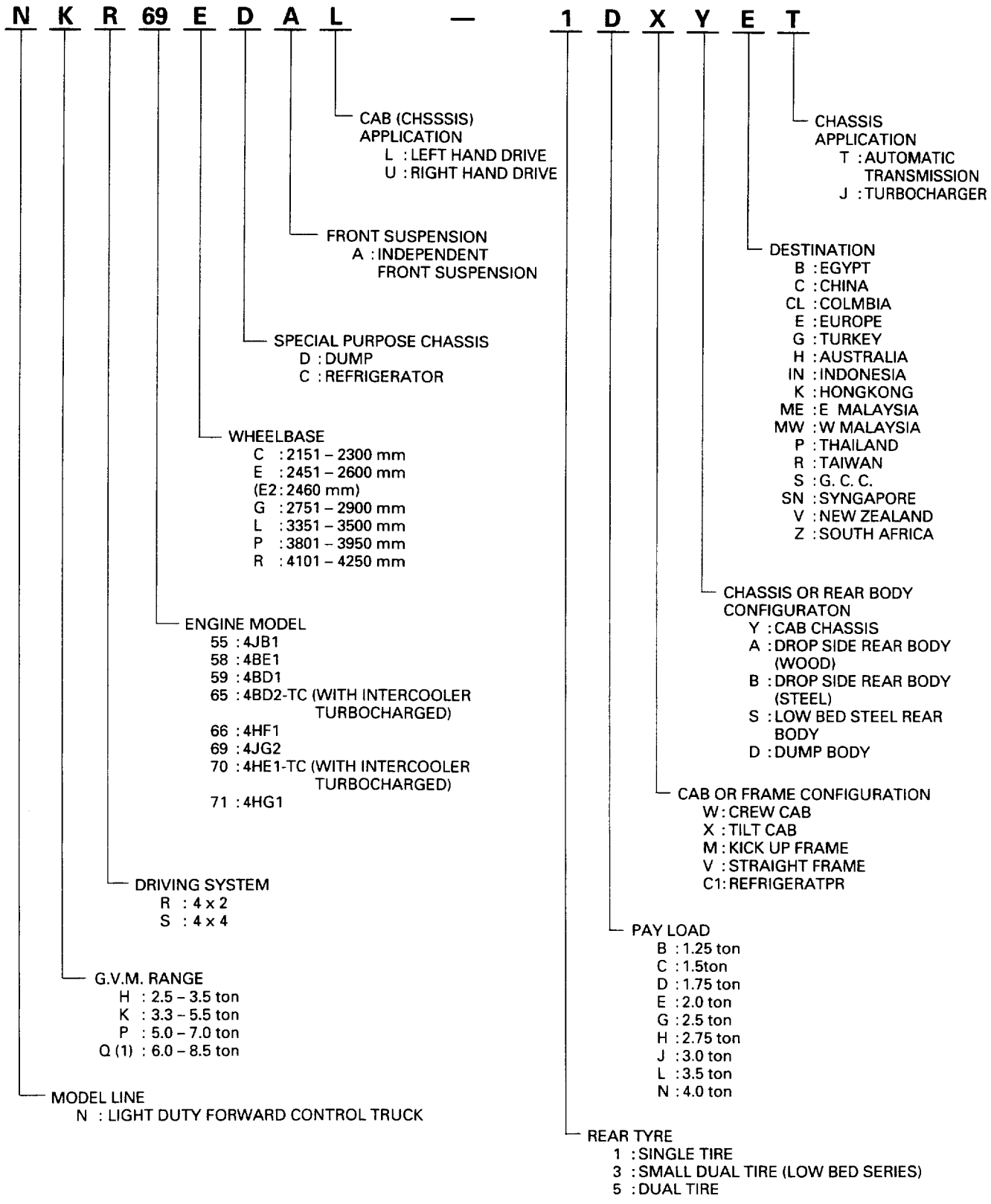
PROBLEM	POSSIBLE CAUSE	CORRECTION
Brake lining and drum clearance	Clearance between the brake lining and the brake drum excessive	Adjust the brake lining and the brake drum clearance
Brake lining	Brake lining worn out	Replace the brake lining
Camshaft	Camshaft worn out	Replace the camshaft
Control wire	Control wire stretched	Adjust the control wire length or replace the control wire

HYDROMASTER

PROBLEM	POSSIBLE CAUSE	CORRECTION
Insufficient Braking Power	1. Hydraulic piston retainer deteriorated (brake fluid leakage). 2. Relay piston cup deteriorated (brake fluid leakage). 3. Air leakage from between the piston plate and the cylinder shell. 4. Clearance between the poppet valve and the body excessive.	1. Replace the hydraulic piston retainer. 2. Replace the relay piston cup. 3. Replace the piston plate rubber gasket 4. Replace the poppet valve.

MAIN DATA AND SPECIFICATIONS

MODEL DEDIGNATION (EXPLANATION ONLY)



FRONT BRAKES (NHR 1994 – 1997)

—	Not available
○	Standard
△	Factory option
	Non

No.	Models	FRONT BRAKE																					
		DISC BRAKE								DRUM BRAKE													
		WHEEL CYL.		DISC				PAD		Type		WHEEL CYL.			DRUM			LINING					
		Inside dia. (in)		Thickness (mm)		Outside dia. (mm)		Thickness (mm)		2L	D2L	Inside dia. (in)			Inside dia. (mm)			Thickness (mm)			Width (mm)		
		2+1/8	2	30	35	265	282	12.0	14.0			1+1/8	1+1/16	1+3/16	279.4	300	320	6.0	9.6	11.0	60	75	100
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	NHR55EU -1CB		–	–		–		–		○		○			○			○			○		
2	NHR55EU -1CY		–	–		–		–		○		○			○			○			○		
3	NHR55EU -1CYIN		–	–		–		–		○		○			○			○			○		
4	NHR55EU -ICYMW		–	–		–		–		○		○			○			○			○		
5	NHR55EU -1CYZ		–	–		–		–		○		○			○			○			○		
6	NHR55EAU-1CBK		○	○		○		○		–		–			–			–			–		
7	NHR55EAU-1CYK		○	○		○		○		–		–			–			–			–		
6a	NHR55EU -1CBK		–	–		–		–		○		○			○			○			○		
7a	NHR55EU -1CYK		–	–		–		–		○		○			○			○			○		
8	NHR55EU -3CB		–	–		–		–		○		○			○			○			○		
9	NHR55EU -3CBSN		–	–		–		–		○		○			○			○			○		
10	NHR55EAU-3CBK		○	○		○		○		–		–			–			–			–		
10a	NHR55EU -3CBK		–	–		–		–		○		○			○			○			○		
11	NHR55EU -1BWS		–	–		–		–		○		○			○			○			○		
12	NHR55EU -1BWSSK		–	–		–		–		○		○			○			○			○		
13	NHR55EAU-1BWSK		○	○		○		○		–		–			–			–			–		
13a	NHR55EU -1BWSK		–	–		–		–		○		○			○			○			○		
14	NHR55EL -1CBS		–	–		–		–		○		○			○			○			○		
15	NHR55EL -1CY		–	–		–		–		○		○			○			○			○		
16	NHR55EAL -1CBC		○	○		○		○		–		–			–			–			–		
17	NHR55EL -3CB		–	–		–		–		○		○			○			○			○		
18	NHP55EL -1BWS		–	–		–		–		○		○			○			○			○		
19	NHR55EL -1BWSS		–	–		–		–		○		○			○			○			○		
20	NHR55EAL -1BWSC		○	○		○		○		–		–			–			–			–		

REAR BRAKES (NHR 1994 – 1997)

—	Not available
○	Standard
△	Factory option
	Non

No.	Models	REAR BRAKE																	PARKING BRAKE				BRAKE CONTROL					
		DRUM BRAKE																										
		TYPE		WHEEL CYL.				DRUM				LINING							DRUM		LINING		MASTER CYL.					
				Inside dia. (in)				Inside dia. (mm)				Thickness (mm)				Width (mm)			Inside dia. (mm)		Width (mm)		Inside dia. (in)					
		D2L (W/O AUTO)	D2L (W AUTO)	7/8	1	1 + 3/16	1 + 5/16	228.6	279.4	300	320	4.9	6.0	9.6	11.0	60	75	100	178	190	35	45	1 + 1/16	1 + 1/8	1 + 1/4	DSPV	LSPV	EBXHAAKUEST
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1	NHR55EU -1CB	○	–	○				–	○			–	○			○	–		○		○		○			△		△
2	NHR55EU -1CY	○	–	○				–	○			–	○			○	–		○		○		○			–		△
3	NHR55EU -1CYIN	○	–	○				–	○			–	○			○	–		○		○		○			–		△
4	NHR55EU -1CYMW	○	–	○				–	○			–	○			○	–		○		○		○			△		△
5	NHR55EU -1CYZ	○	–	○				–	○			–	○			○	–		○		○		○			○		△
6	NHR55EAU-1CBK	–	○	○				–	○			–	○			○	–		○		○		○			△		△
7	NHR55EAU-1CYK	–	○	○				–	○			–	○			○	–		○		○		○			–		△
6a	NHR55EU -1CBK	○	–	○				–	○			–	○			○	–		○		○		○			△		△
7a	NHR55EU -1CYK	○	–	○				–	○			–	○			○	–		○		○		○			–		△
8	NHR55EU -3CB	○	–	○				○	–			○	–			–	○		○		○		○			△		△
9	NHR55EU -3CBSN	○	–	○				○	–			○	–			–	○		○		○		○			△		△
10	NHR55EAU-3CBK	–	○	○				○	–			○	–			–	○		○		○		○			△		△
10a	NHR55EU -3CBK	○	–	○				○	–			○	–			–	○		○		○		○			△		△
11	NHR55EU -1BWS	○	–	○				–	○			–	○			○	–		○		○		○			△		△
12	NHR55EU -1BWSSN	○	–	○				–	○			–	○			○	–		○		○		○			△		△
13	NHR55EAU-1BWSK	–	○	○				–	○			–	○			○	–		○		○		○			△		△
13a	NHR55EU -1BWSK	○	–	○				–	○			–	○			○	–		○		○		○			△		△
14	NHR55EL -1CBS	○	–	○				–	○			–	○			○	–		○		○		○			△		△
15	NHR55EL -1CY	○	–	○				–	○			–	○			○	–		○		○		○			–		△
16	NHR55EAL -1CBC	–	○	○				–	○			–	○			○	–		○		○		○			○		○
17	NHR55EL -3CB	○	–	○				○	–			○	–			–	○		○		○		○			△		△
18	NHR55EL -1BWS	○	–	○				–	○			–	○			○	–		○		○		○			△		△
19	NHR55EL -1BWSS	○	–	○				–	○			–	○			○	–		○		○		○			△		△
20	NHR55EAL -1BWSC	–	○	○				–	○			–	○			○	–		○		○		○			○		△