

**MANUFACTORY REPAIR FLATE RATE FOR
NISSAN PRIMASTAR**

OPERATION	DESCRIPTION	TIME
Engine assembly		
Engine & transmission complete	Remove and Install	8.4
Engine & transmission complete - AC	Remove and Install	8.7
Full exchange engine	Remove and Install	12.3
Full exchange engine - AC	Remove and Install	12.6
Short exchange engine	Remove and Install	17.4
Short exchange engine - AC	Remove and Install	17.7
Complete engine	Strip and Rebuild	21.7
Complete engine - AC	Strip and Rebuild	22
Cylinder block	Strip and Rebuild	18.6
Cylinder block - AC	Strip and Rebuild	18.9
Mounting - front (of engine bay)	Remove and Install	0.9
Mounting - rear (of engine bay)	Remove and Install	1.2
Engine undertray/shield	Remove and Install	0.2
Cylinder head		
Camshaft/valve cover & gasket	Remove and Install	2.1
Cylinder head & gasket	Remove and Install	8.4
Cylinder head	Strip and Rebuild	12
Cylinder head - transfer components	Strip and Rebuild	12
Rocker shaft assembly (both)	Remove and Install	2.4
Valve stem oil seals (all)	Remove and Install	12.8
Camshaft & drive gear		
Camshaft front oil seal	Remove and Install	2.8
Camshaft drive sprocket/gear	Remove and Install	2.6
Camshaft driven sprockets/gears	Remove and Install	2.6
Camshaft drive belt/chain	Remove and Install	2.7
Camshaft drive belt/chain tensioner	Remove and Install	2.7
Crankshaft & pistons		
Crankshaft/all main bearings	Remove and Install	15.6
Crankshaft/all main bearings - AC	Remove and Install	15.9
Crankshaft front oil seal	Remove and Install	4.3
Crankshaft rear oil seal	Remove and Install	4.6
Crankshaft pulley	Remove and Install	0.6
Counter balance shaft	Remove and Install	1.5
Big end bearings	Remove and Install	10.8
Conrods & pistons (all)	Remove and Install	10.8
Piston & liner sets (all)	Remove and Install	28.1
Piston & liner sets (all) - AC	Remove and Install	28.4
Piston rings (all)	Remove and Install	10.8

Lubrication		
Engine oil	Renew	0.3
Oil filter	Remove and Install	0.3
Oil sump pan	Remove and Install	1.5
Oil pick-up strainer	Remove and Install	1.5
Oil pump	Remove and Install	1.1
Oil pump drive gear	Remove and Install	10
Air filter. manifolds & plenum chamber		
Air filter assembly	Remove and Install	0.4
Air filter element	Remove and Install	0.2
Intake manifold	Remove and Install	2.3
Intake manifold gasket	Remove and Install	2.3
Throttle controls		
Throttle cable	Remove and Install	0.4
Throttle pedal - RHD	Remove and Install	0.2
Throttle pedal - LHD	Remove and Install	0.2
Diesel injection system		
Control ECU	Remove and Install	0.2
Air flow/Mass sensor unit	Remove and Install	0.2
Coolant temperature sensor	Remove and Install	1
Engine speed sensor	Remove and Install	0.3
Fuel filter	Remove and Install	0.3
Injection pump	Remove and Install	2.2
Injectors (all)	Remove and Install	1.3
Injection pump shut-off solenoid	Remove and Install	0.4
Pre-heat plugs (all)	Remove and Install	0.4
Pre-heating system timer unit	Remove and Install	0.3
Fuel supply		
Fuel tank	Remove and Install	1
Fuel filter (in-line)	Remove and Install	0.3
Turbocharger		
Turbocharger	Remove and Install	2
Connection - manifold	Remove and Install	0.3
Radiator. fan & intercooler		
Cooling fan	Remove and Install	2.7
Cooling fan motor thermostwitch	Remove and Install	1
Radiator	Remove and Install	2.2
Radiator cowling	Remove and Install	2.7
Thermostat	Remove and Install	1.4
Intercooler	Remove and Install	1.1
Pump & drive		
Water pump	Remove and Install	3.5
Header tank & hoses		
Header/expansion tank	Remove and Install	0.3

Radiator top hose	Remove and Install	1.2
Radiator bottom hose	Remove and Install	1.2
Manifold. pipes & silencers		
Exhaust manifold	Remove and Install	2.4
Exhaust manifold gasket	Remove and Install	2.3
Manifold to downpipe gasket	Remove and Install	0.6
Pipe - middle/silencer	Remove and Install	0.7
Pipe - rear/tail/silencer	Remove and Install	0.7
Catalytic converter		
Catalytic converter	Remove and Install	0.6
Exhaust gas recirculation valve	Remove and Install	1.6
Clutch pedal. linkage & hydraulics		
Release system	Check and Adjust	0.2
Pedal assembly - RHD	Remove and Install	0.6
Pedal assembly - LHD	Remove and Install	0.6
Hydraulic release system	Bleed	0.3
Master cylinder - RHD	Remove and Install	0.6
Master cylinder - LHD	Remove and Install	0.6
Slave cylinder	Remove and Install	8.5
Slave cylinder hose	Remove and Install	0.5
Clutch unit & flywheel		
Clutch plate. cover & release bearing	Remove and Install	8.6
Flywheel	Remove and Install	5.6
Starter ring gear	Remove and Install	6.6
Gearbox unit & casing		
Gearbox	Remove and Install	4.3
Gearbox	Strip and Rebuild	10.4
Gear control. linkage & selectors		
Gear linkage	Remove and Install	0.5
Gears. bearings & seals		
Speedometer driven gear	Remove and Install	0.4
Front axle		
Driveshaft - left	Remove and Install	1
Driveshaft - right	Remove and Install	1
Driveshaft (both)	Remove and Install	1.4
Driveshaft joint - both left	Remove and Install	2.4
Driveshaft joint - both right	Remove and Install	2.7
Driveshaft joint (all)	Remove and Install	4.6
Driveshaft joint gaiter - outer left	Remove and Install	1.8
Driveshaft joint gaiter - outer right	Remove and Install	1.8
Driveshaft joint gaiter - both left	Remove and Install	2.3
Driveshaft joint gaiter - both right	Remove and Install	2.3
Wheel bearing set	Remove and Install	0.9
Wheel bearing set (both)	Remove and Install	1.5
Hub assembly	Remove and Install	0.9

Hub assembly (both)	Remove and Install	1.5
Rear axle		
Wheel bearing set	Remove and Install	0.7
Wheel bearing set (both)	Remove and Install	1.5
Hub assembly	Remove and Install	0.7
Hub assembly (both)	Remove and Install	1.5
Front suspension		
Strut assembly	Remove and Install	0.5
Strut assembly (both)	Remove and Install	1
Road spring	Remove and Install	0.7
Road spring (both)	Remove and Install	1.4
Shock absorbers (pair)	Remove and Install	1
Suspension lower arm	Remove and Install	0.6
Suspension lower arm (both)	Remove and Install	1.1
Anti-roll bar	Remove and Install	1
Anti-roll bar link - outer	Remove and Install	0.2
Anti-roll bar link - outer (both)	Remove and Install	0.4
Rear suspension		
Shock absorber	Remove and Install	0.7
Shock absorbers (pair)	Remove and Install	0.9
Axle/axle tube/crossmember	Remove and Install	1.7
Steering geometry		
Front wheel alignment (toe)	Check and Adjust	0.3
Camber - front	Check and Adjust	1.2
Camber - rear	Check and Adjust	1.2
Steering mechanism		
Steering rack/box	Remove and Install	1.6
Rack gaiter	Remove and Install	0.5
Rack gaiter (both)	Remove and Install	0.6
Track rod	Remove and Install	1.6
Track rod (both)	Remove and Install	2
Track rod end joint	Remove and Install	0.7
Track rod end joint (both)	Remove and Install	1
Steering column		
Steering wheel	Remove and Install	0.3
Steering column lock	Remove and Install	0.7
Steering column	Remove and Install	0.6
Steering column shroud	Remove and Install	0.2
Power assisted steering		
Pump	Remove and Install	1
Fluid reservoir	Remove and Install	0.3
High pressure hose	Remove and Install	0.8
Braking system hydraulics		
Hydraulic system	Bleed	0.6
Fluid reservoir (separate)	Remove and Install	0.3

Master cylinder RHD	Remove and Install	0.9
Master cylinder LHD	Remove and Install	0.9
Front brake caliper (both)	Remove and Install	0.9
Front brake caliper (one)	Strip and Rebuild	1.1
Front brake caliper (both)	Strip and Rebuild	1.9
Rear brake caliper (one)	Remove and Install	1
Rear brake caliper (both)	Remove and Install	1.4
Front brake hose (one)	Remove and Install	1.1
Front brake hose (both)	Remove and Install	1.8
Rear brake hose (one)	Remove and Install	1.1
Rear brake hose (both)	Remove and Install	1.8
Footbrakes		
Front brake pads (all)	Remove and Install	0.5
Rear brake pads (all)	Remove and Install	0.6
Front brake disc (both)	Remove and Install	1.9
Rear brake disc (both)	Remove and Install	2.5
Brake pedal & servo		
Pedal assembly - RHD	Remove and Install	0.2
Pedal assembly - LHD	Remove and Install	0.2
Servo - RHD	Remove and Install	1.3
Servo - LHD	Remove and Install	1.3
Vacuum hose to manifold	Remove and Install	0.2
ABS or ABS/ESP		
Wheel sensor - front (one)	Remove and Install	0.3
Wheel sensor - rear (one)	Remove and Install	0.3
Accumulator	Remove and Install	1.5
Parking brake		
Parking brake lever	Remove and Install	0.4
Parking brake cable - primary/single	Remove and Install	0.3
Parking brake cable - one side - disc brakes	Remove and Install	0.4
Parking brake cables (both sides) - disc brakes	Remove and Install	0.8
Battery & cables		
Battery	Check	0.2
Battery	Remove and Install	0.3
Cable to starter/solenoid	Remove and Install	1
Cable to body earth	Remove and Install	1
Transducers. sensors & transmitters		
Horn	Remove and Install	0.2
Oil pressure transmitter	Remove and Install	0.2
Speedo drive sensor	Remove and Install	0.3
Coolant temperature sensor	Remove and Install	0.5
Fuel level sensor	Remove and Install	1
Fusebox & Relays		
Fusebox	Remove and Install	0.2
Headlamps relay	Remove and Install	0.2

Indicator relay/flasher unit	Remove and Install	0.3
Hazard warning lamps relay	Remove and Install	0.3
Intermittent wiper relay	Remove and Install	1.9
Coolant blower motor relay	Remove and Install	0.4
Horn relay	Remove and Install	0.2
Heated mirrors relay	Remove and Install	0.2
Fuel pump relay	Remove and Install	0.2
Motors		
Front wiper motor	Remove and Install	0.3
Rear wiper motor	Remove and Install	0.3
Front washer motor	Remove and Install	0.7
Front window lift motor	Remove and Install	2.1
Front central locking solenoid/actuator	Remove and Install	1.4
Rear central locking solenoid/actuator	Remove and Install	0.5
Headlamp levelling motor - one	Remove and Install	0.7
Control & audio units		
Radio/cassette unit	Remove and Install	0.3
Windscreen wipers/washers		
Wiper arm	Remove and Install	0.2
Wiper linkage	Remove and Install	0.5
Washer jet - (both)	Remove and Install	0.7
Washer reservoir	Remove and Install	0.7
Washer hose	Remove and Replace	1.1
Scuttle panel	Remove and Install	0.3
Rear screen wipers/washers		
Wiper arm	Remove and Install	0.2
Washer jet	Remove and Install	0.2
Charging system		
Alternator	Remove and Install	0.7
Starting system		
Starter motor - pre-engaged	Remove and Install	1
Starter motor - pre-engaged	Strip and Rebuild	2
Starter motor solenoid	Remove and Install	1.5
Bulbs		
Bulb - unspecified (one)	Remove and Install	0.2
Headlamp bulb	Remove and Install	0.2
Rear combination bulb (any)	Remove and Install	0.2
Front lamps		
Headlamp - one	Remove and Install	0.5
Fog lamp - one	Remove and Install	0.2
Direction indicator - one	Remove and Install	0.2
Side repeater lamp - one	Remove and Install	0.2
Rear lamps		
Rear combination lamp assembly	Remove and Install	0.2

Number plate lamp - one	Remove and Install	0.3
Fog lamp	Remove and Install	0.2
High mounted brake lamp	Remove and Install	0.2
Interior lamps		
Interior lamp - front	Remove and Install	0.2
Switches		
Starter/ignition switch	Remove and Install	0.6
Direction indicator switch	Remove and Install	0.5
Wash/wipe switch	Remove and Install	0.2
Hazard warning lights switch	Remove and Install	0.2
Reversing lights switch	Remove and Install	0.5
Stop lamps switch	Remove and Install	0.2
Parking brake warning lamp switch	Remove and Install	0.3
Front door lamp switch	Remove and Install	0.3
N9 Instruments		
Instrument panel	Remove and Install	0.2
Instrument panel printed circuit	Remove and Install	0.3
Speedometer	Remove and Install	0.3
Tachometer	Remove and Install	0.3
Fuel gauge (separate)	Remove and Install	0.3
Coolant temperature gauge (separate)	Remove and Install	0.3
Clock	Remove and Install	0.3
Cigarette lighter	Remove and Install	0.2
Heating & ventilation system		
Heater unit - complete	Remove and Install	1.5
Heater unit - complete - AC	Remove and Install	2.1
Heater hose - from engine	Remove and Install	0.5
Heater hose - to engine	Remove and Install	0.5
Heater control levers	Remove and Install	0.3
Heater control cables/rods	Remove and Install	0.3
Heater matrix - RHD	Remove and Install	2
Heater matrix - LHD	Remove and Install	2
Heater blower motor	Remove and Install	0.5
Air conditioning		
System evacuation/recharging	Check and Adjust	0.6
Receiver/drier	Remove and Install	1
Expansion valve to compressor line	Remove and Install	0.9
Compressor to condenser line	Remove and Install	2.3
Compressor	Remove and Install	1.3
Expansion valve - front	Remove and Install	1
Condenser	Remove and Install	2.4
Evaporator - front	Remove and Install	4.2
Switch - low/cycling pressure	Remove and Install	0.9
Air conditioning relay	Remove and Install	0.4
Recirculation motor/solenoid - front	Remove and Install	0.8

Blower control module/resistor - front	Remove and Install	0.5
Blower relay	Remove and Install	0.4
Front bumper/spoiler		
Front bumper - complete	Remove and Replace	0.7
Front grill		
Grill - complete/central	Remove and Install	0.3
Bonnet		
Bonnet	Check and Adjust	0.2
Bonnet	Remove and Replace	0.7
Bonnet hinge - one	Remove and Replace	1.3
Bonnet hinge - (both)	Remove and Replace	1.4
Striker/locking mechanism - upper	Remove and Install	0.3
Striker/locking mechanism - lower	Remove and Install	0.3
Bonnet stay	Remove and Install	0.2
Bonnet release cable	Remove and Install	0.3
Sound insulation	Remove and Replace	0.7
Front wings		
Wing - welded/bolted - right hand	Remove and Replace	1
Wing - welded/bolted - left hand	Remove and Replace	1
Wing - welded/bolted - (both)	Remove and Replace	1.5
Wheel arch liner	Remove and Install	1
Aerial/Antenna	Remove and Replace	1.3
Aerial/Antenna - mast	Remove and Replace	0.2
Aerial/Antenna - cable	Remove and Replace	1.3
Windscreen		
Windscreen	Remove and Replace	2.1
Windscreen seal	Remove and Replace	2.1
Front door		
Front door	Check and Adjust	0.4
Front door	Remove and Replace	1.9
Door hinge - upper	Remove and Replace	1.3
Door hinge - lower	Remove and Replace	1.3
Checkstrap	Remove and Install	0.4
Interior door trim	Remove and Install	0.3
Door window	Remove and Install	0.5
Window winder mechanism	Remove and Install	0.5
Window winder handle	Remove and Install	0.2
Door handle - inner	Remove and Install	0.2
Quarter light	Remove and Install	0.5
Door lock/catch	Remove and Install	0.6
Striker plate	Remove and Install	0.2
Lock barrel	Remove and Install	0.6
Door handle - outer	Remove and Install	0.6
Door mirror - one	Remove and Install	0.2
Door weather-strip	Remove and Install	0.2

Rear door		
Rear door	Check and Adjust	0.4
Rear door	Remove and Replace	4.5
Interior door trim	Remove and Install	0.2
Door window	Remove and Install	1.4
Door handle - inner	Remove and Install	0.2
Door lock/catch	Remove and Install	0.3
Striker plate	Remove and Install	0.2
Door handle - outer	Remove and Install	0.6
Door weather - strip	Remove and Install	0.2
Interior/Seats/Seatbelts		
Ignition lock	Remove and Replace	0.6
Airbag - driver	Remove and Replace	0.3
Airbag - passenger	Remove and Replace	0.3
Airbag spiral cable/slip ring (clock spring)	Remove and Replace	0.4
Headlining - complete	Remove and Install	0.9
Carpet - front	Remove and Install	1.2
Carpet - rear	Remove and Install	0.8
Centre console - front	Remove and Install	0.3
Fascia - complete - LHD	Remove and Install	2.8
Fascia - complete - RHD	Remove and Install	2.8
Sun visor - one	Remove and Install	0.2
Glovebox	Remove and Install	0.3
Glovebox lid	Remove and Install	0.3
Glovebox lock barrel	Remove and Install	0.3
Grab handle - (all)	Remove and Install	0.2
Front seat - one	Remove and Install	0.3
Rear seat	Remove and Install	0.2
Rear seat back rest	Remove and Install	0.2
Headrest - one	Remove and Install	0.2
Front seat belt	Remove and Install	0.6
Seat belt buckle - front	Remove and Install	0.2
Rear seat belt - outer	Remove and Install	0.4
Rear bumper		
Rear bumper - complete	Remove and Replace	0.3
Bumper corner	Remove and Install	0.4
Bumper brackets	Remove and Install	0.4
Rear hatch/tailgate		
Rear hatch/tailgate	Check and Adjust	0.3
Rear hatch/tailgate	Remove and Replace	2.1
Rear hatch/tailgate hinge - (both)	Remove and Replace	1.3
Gas strut - (both)	Remove and Install	0.3
Lock	Remove and Install	0.4
Striker plate	Remove and Install	0.2
Lock barrel	Remove and Replace	0.3
Handle - outer	Remove and Install	0.3

Hatch/tailgate lid seal	Remove and Install	0.2
Back door		
Back door	Check and Adjust	0.3
Back door	Remove and Replace	1
Checkstrap	Remove and Install	0.5
Door lock - LH/Single	Remove and Install	0.3
Door lock - RH	Remove and Install	0.3
Lock barrel	Remove and Replace	0.3
Door seal	Remove and Install	0.2
Rear wing		
Fuel filler flap	Remove and Install	0.2
Rear window - fixed	Remove and Install	1.4
Rear screen		
Rear screen	Remove and Replace	1.3
Rear screen seal	Remove and Replace	1.3