

APPENDIX 2

**MANUFACTORY REPAIR FLATE RATE FOR
NISSAN PATROL Y61 MODEL**

OPERATION	DESCRIPTION	TIME
Engine assembly		
Engine only - AC	Remove and Install	9.1
Full exchange engine - AC	Remove and Install	14.4
Short exchange engine - AC	Remove and Install	18.8
Complete engine - AC	Strip and Rebuild	23.2
Cylinder block - AC	Strip and Rebuild	19
Mounting - front (of engine bay)	Remove and Install	2.4
Cylinder head		
Camshaft/valve cover & gasket	Remove and Install	1
Cylinder head & gasket	Remove and Install	10.9
Cylinder head & gasket - AC	Remove and Install	11.3
Cylinder head	Strip and Rebuild	14
Cylinder head - transfer components	Strip and Rebuild	14
Valves (all) including lapping	Remove and Install	14.1
Valve stem oil seals (all)	Remove and Install	6.5
Camshaft & drive gear		
Camshaft(s) - left	Remove and Install	5.9
Camshaft(s) - right	Remove and Install	5.9
Camshafts (both/all)	Remove and Install	6.5
Camshaft drive sprocket/gear	Remove and Install	14.3
Camshaft driven sprockets/gears	Remove and Install	14.3
Camshaft drive belt/chain	Remove and Install	14.3
Camshaft drive belt/chain tensioner	Remove and Install	3.5
Camshaft chain cover & gasket	Remove and Install	14.2
Crankshaft & pistons		
Crankshaft/all main bearings	Remove and Install	17.9
Crankshaft/all main bearings - AC	Remove and Install	18.5
Crankshaft front oil seal	Remove and Install	2.3
Crankshaft front oil seal - AC	Remove and Install	2.4
Crankshaft rear oil seal	Remove and Install	8
Crankshaft pulley	Remove and Install	2.2
Crankshaft pulley - AC	Remove and Install	2.3
Big end bearings	Remove and Install	16.1
Conrods & pistons (all)	Remove and Install	16.1
Lubrication		
Oil filter	Remove and Install	0.2
Oil pressure relief valve	Remove and Install	2.9
Oil sump pan	Remove and Install	0.9
Oil sump pan - upper	Remove and Install	7
Oil pick-up strainer	Remove and Install	7
Oil pump	Remove and Install	14.3

Oil cooler	Remove and Install	4.5
Oil cooler hoses	Remove and Install	1.5
Auxiliary drive		
Fan/serpentine belt	Remove and Install	1
PAS drive/serpentine belt	Check and Adjust	0.3
PAS drive/serpentine belt	Remove and Install	0.4
Air filter, manifolds & plenum chamber		
Air filter assembly	Remove and Install	0.3
Air filter element	Remove and Install	0.2
Intake manifold	Remove and Install	2.9
Intake manifold gasket	Remove and Install	2.9
Throttle controls		
Throttle return spring	Remove and Install	0.5
Throttle pedal	Remove and Install	0.5
Fuel supply		
Lift pump	Remove and Install	0.6
Fuel tank	Remove and Install	1.1
Fuel filter/sedimenter	Remove and Install	0.3
Turbocharger		
Turbocharger	Remove and Install	4
Radiator, fan & intercooler		
Cooling fan coupling	Remove and Install	1.3
Cooling fan	Remove and Install	0.8
Cooling fan motor thermostwitch	Remove and Install	0.6
Radiator	Remove and Install	0.8
Thermostat	Remove and Install	1.6
Thermostat - AC	Remove and Install	0.6
Pump & drive		
Water pump	Remove and Install	1.3
Header tank & hoses		
Header/expansion tank	Remove and Install	0.2
Radiator top hose	Remove and Install	0.6
Radiator bottom hose	Remove and Install	0.6
Manifold, pipes & silencers		
Exhaust manifold	Remove and Install	4.2
Exhaust manifold gasket	Remove and Install	4.2
Manifold to downpipe gasket	Remove and Install	0.7
Pipe - front/downpipe	Remove and Install	0.9
Pipe - rear/tail/silencer	Remove and Install	0.3
Catalytic converter		
Exhaust gas recirculation valve	Remove and Install	0.9
Clutch pedal, linkage & hydraulics		
Release system	Check and Adjust	0.3
Pedal assembly	Remove and Install	0.5
Pedal return spring	Remove and Install	0.5
Hydraulic release system	Bleed	0.3
Master cylinder	Remove and Install	0.3

Slave cylinder	Remove and Install	0.4
Slave cylinder hose	Remove and Install	0.4
Hydraulic pipe	Remove and Install	0.4
Clutch unit & flywheel		
Clutch plate, cover & release bearing	Remove and Install	7.7
Flywheel	Remove and Install	7.9
Starter ring gear	Remove and Install	8.4
Gearbox unit & casing		
Gearbox	Remove and Install	7.5
Gearbox	Strip and Rebuild	11.9
Gear control, linkage & selectors		
Lever	Remove and Install	0.4
Propshaft, centre differential & transfer box		
Propshaft - front/single	Remove and Install	0.6
Transfer box	Remove and Install	3.3
Transfer box lever	Remove and Install	0.3
Front axle		
Final drive	Remove and Install	4.1
Final drive pinion oil seal	Remove and Install	0.7
Driveshaft - left	Remove and Install	0.9
Driveshaft - right	Remove and Install	0.9
Driveshaft (both)	Remove and Install	1.5
Wheel bearing set	Remove and Install	1.1
Wheel bearing set (both)	Remove and Install	2.1
Hub assembly	Remove and Install	1.1
Hub assembly (both)	Remove and Install	2.1
Rear axle		
Rear axle - complete	Remove and Install	4.9
Final drive	Remove and Install	4.3
Final drive pinion oil seal	Remove and Install	0.5
Halfshaft	Remove and Install	1
Halfshaft (both)	Remove and Install	1.6
Wheel bearing set	Remove and Install	1
Wheel bearing set (both)	Remove and Install	1.6
Front suspension		
Road spring	Remove and Install	0.5
Road spring (both)	Remove and Install	0.8
Shock absorber	Remove and Install	0.5
Shock absorbers (pair)	Remove and Install	0.7
Anti-roll bar	Remove and Install	0.4
Anti-roll bar bushes (all)	Remove and Install	0.2
Anti-roll bar link - outer	Remove and Install	0.3
Anti-roll bar link - outer (both)	Remove and Install	0.5
Swivel hub/stub axle assembly	Remove and Install	2.3
Swivel hub/stub axle assembly (both)	Remove and Install	3.4
Rear suspension		
Strut assembly	Remove and Install	0.4

Strut assembly (both)	Remove and Install	0.6
Strut top mounting	Remove and Install	0.4
Strut top mounting (both)	Remove and Install	0.7
Road spring	Remove and Install	0.4
Road spring (both)	Remove and Install	0.7
Shock absorber	Remove and Install	0.4
Shock absorbers (pair)	Remove and Install	0.6
Suspension upper arm	Remove and Install	0.4
Suspension upper arm (both)	Remove and Install	0.6
Suspension upper arm bushes	Remove and Install	0.4
Suspension upper arm bushes (both)	Remove and Install	0.6
Suspension lower arm	Remove and Install	0.3
Suspension lower arm (both)	Remove and Install	0.5
Suspension lower arm bush(es)	Remove and Install	0.3
Suspension lower arm bushes (both)	Remove and Install	0.5
Anti-roll bar	Remove and Install	0.7
Anti-roll bar bushes (all)	Remove and Install	0.4
Anti-roll bar link - outer	Remove and Install	0.3
Anti-roll bar link - outer (both)	Remove and Install	0.4
Panhard rod	Remove and Install	0.4
Panhard rod bushes (all)	Remove and Install	0.4
Steering geometry		
Front wheel alignment (toe)	Check and Adjust	0.5
Steering mechanism		
Steering rack/box	Remove and Install	1
Steering rack/box - PAS	Remove and Install	1.1
Drag link assembly	Remove and Install	0.7
Track rod	Remove and Install	0.8
Track rod end joint	Remove and Install	0.8
Track rod end joint (both)	Remove and Install	1
Steering damper	Remove and Install	0.4
Steering arm	Remove and Install	0.7
Stub axle	Remove and Install	0.8
Stub axle (both)	Remove and Install	1.3
Steering column		
Steering wheel	Remove and Install	0.4
Steering column lock	Remove and Install	0.9
Steering column	Remove and Install	1.4
Steering column shroud	Remove and Install	0.2
Power assisted steering		
Pump	Remove and Install	0.9
Fluid reservoir	Remove and Install	0.4
Braking system hydraulics		
Hydraulic system	Bleed	0.7
Fluid reservoir (separate)	Remove and Install	0.5
Master cylinder	Remove and Install	0.6
Rear wheel cylinder (one)	Remove and Install	0.7

Rear wheel cylinder (both)	Remove and Install	1.1
Front brake caliper (one)	Remove and Install	1.2
Front brake caliper (both)	Remove and Install	1.5
Rear brake caliper (one)	Remove and Install	1.2
Rear brake caliper (both)	Remove and Install	1.5
Front brake hose (one)	Remove and Install	1.1
Front brake hose (both)	Remove and Install	1.4
Rear brake hose (one)	Remove and Install	1.1
Rear brake hose (both)	Remove and Install	1.3
Pressure compensator/load valve (one)	Remove and Install	1
Footbrakes		
Front brake pads (all)	Remove and Install	0.5
Rear brake pads (all)	Remove and Install	0.5
Rear brakes shoes (all)	Remove and Install	0.8
Front brake disc (both)	Remove and Install	1.7
Rear brake disc (both)	Remove and Install	0.4
Rear brake drum (both)	Remove and Install	0.5
Rear backplate (one)	Remove and Install	0.4
Brake pedal & servo		
Pedal assembly	Remove and Install	0.4
Pedal return spring	Remove and Install	0.4
Servo	Remove and Install	1
ABS or ABS/ESP		
Wheel sensor - front (one)	Remove and Install	0.4
Wheel sensor - front (both)	Remove and Install	0.6
Wheel sensor - rear (one)	Remove and Install	0.3
Wheel sensor - rear (both)	Remove and Install	0.4
Actuator	Remove and Install	1.1
Parking brake		
Parking brake freeplay	Check and Adjust	0.2
Parking brake lever	Remove and Install	0.5
Parking brake cable - primary/single	Remove and Install	0.7
Parking brake pads/shoes (all)	Remove and Install	0.5
Battery & cables		
Battery	Check	0.5
Battery	Remove and Install	0.5
Charging system		
Alternator	Remove and Install	1.4
Voltage regulator	Remove and Install	1.8
Starting system		
Starter motor - pre-engaged	Remove and Install	1.3
Starter motor solenoid	Remove and Install	2.3
Bulbs		
Headlamp bulb	Remove and Install	0.2
Rear combination bulb (any)	Remove and Install	0.2
Instrument panel illumination (any)	Remove and Install	0.6
Front lamps		

Headlamp alignment	Check and Adjust	0.3
Headlamp - one	Remove and Install	0.4
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
High mounted brake lamp	Remove and Install	0.2
Interior lamps		
Interior lamp - front	Remove and Install	0.2
Interior lamp - rear	Remove and Install	0.2
Hatch/tailgate lamp	Remove and Install	0.2
Switches		
Starter/ignition switch	Remove and Install	0.9
Main lighting switch	Remove and Install	0.2
Horn switch	Remove and Install	0.4
Hazard warning lights switch	Remove and Install	0.2
Stop lamps switch	Remove and Install	0.2
Front door lamp switch	Remove and Install	0.2
Rear door lamp switch	Remove and Install	0.2
Hatch/tailgate lamp switch	Remove and Install	0.2
Instruments		
Instrument panel	Remove and Install	0.6
Instrument panel printed circuit	Remove and Install	1
Speedometer	Remove and Install	0.9
Tachometer	Remove and Install	0.9
Fuel gauge (separate)	Remove and Install	0.9
Coolant temperature gauge (separate)	Remove and Install	0.9
Clock	Remove and Install	0.7
Cigarette lighter	Remove and Install	0.2
Turbo boost gauge	Remove and Install	0.9
Transducers, sensors & transmitters		
Horn (both)	Remove and Install	0.5
Oil pressure transmitter	Remove and Install	0.2
Coolant temperature sensor	Remove and Install	0.6
Fuel level sensor	Remove and Install	0.6
Fusebox & Relays		
Indicator relay/flasher unit	Remove and Install	0.2
Glow plug relay	Remove and Install	0.2
Heated rear window relay	Remove and Install	0.2
Horn relay	Remove and Install	0.2
Electric window motor relay	Remove and Install	0.2
Fuel pump relay	Remove and Install	0.2
Motors		
Front wiper motor	Remove and Install	0.5
Rear wiper motor	Remove and Install	0.3

Front washer motor	Remove and Install	0.2
Rear washer motor	Remove and Install	0.2
Headlamp washer motor	Remove and Install	0.4
Front window lift motor	Remove and Install	0.5
Rear door window lift motor	Remove and Install	0.6
Sunroof motor	Remove and Install	1.5
Headlamp levelling motor - one	Remove and Install	0.6
Control & audio units		
Radio/cassette unit	Remove and Install	0.4
Windscreen wipers/washers		
Wiper arm	Remove and Install	0.2
Wiper linkage	Remove and Install	0.6
Washer jet - (both)	Remove and Install	0.2
Washer reservoir	Remove and Install	0.2
Washer hose	Remove and Replace	0.3
Headlamp wipers/washers		
Headlamp wiper blade	Remove and Install	0.2
Washer reservoir	Remove and Install	0.4
Rear screen wipers/washers		
Wiper arm	Remove and Install	0.2
Washer jet	Remove and Install	0.2
Washer reservoir	Remove and Install	0.2
Heating & ventilation system		
Heater unit - complete	Remove and Install	3.1
Heater matrix	Remove and Install	3.2
Heater blower motor	Remove and Install	0.2
Cabin filter	Remove and Install	0.2
Air conditioning		
System evacuation/recharging	Check and Adjust	0.6
Compressor to condenser line	Remove and Install	1.3
Compressor	Remove and Install	2.2
Compressor clutch	Remove and Install	1.7
Expansion valve - front	Remove and Install	1.1
Condenser	Remove and Install	1.3
Condenser blower motor	Remove and Install	0.3
Condenser blower motor relay	Remove and Install	0.2
Evaporator - front	Remove and Install	1
Ambient temperature sensor	Remove and Install	0.2
Temperature sensor - front	Remove and Install	0.2
Delivery temp sensor	Remove and Install	0.3
Air conditioning relay	Remove and Install	0.2
Blower relay	Remove and Install	0.3
Bonnet		
Bonnet release cable	Remove and Install	0.4
Windscreen		
Windscreen	Remove and Install	2.9
Front door		

Door window	Remove and Install	0.4
Door window - electric	Remove and Install	0.5
Window winder mechanism	Remove and Install	0.4
Window winder mechanism - electric	Remove and Install	0.5
Lock barrel	Remove and Install	0.3
Door mirror - electrically adjusted - one	Remove and Install	0.4
Rear door		
Door window	Remove and Install	0.8
Window winder mechanism	Remove and Install	0.8
Interior/Seats/Seatbelts		
Airbag - driver	Remove and Replace	0.4
Airbag - passenger	Remove and Replace	0.5
Side airbag - front - one	Remove and Replace	0.7
Side airbag - front (both)	Remove and Replace	1.1
Airbag spiral cable/slip ring (clock spring)	Remove and Replace	0.6
Glovebox lock barrel	Remove and Install	0.2
Front seat belt	Remove and Install	0.4
Rear seat belt and buckle - outer	Remove and Install	0.4
Rear window - fixed	Remove and Install	0.7