

# ANNEX 1

## MANUFACTORY REPAIR FLAT RATE FOR TOYOTA LC PRADO 150 MODEL

OPERATION	DESCRIPTION	TIME
Engine assembly		
Engine & transmission complete	Remove and Install	8.9
Engine & transmission complete - AC	Remove and Install	9.1
Engine & transmission complete - PAS	Remove and Install	9
Short exchange engine - PAS +AC	Remove and Install	13.6
Mounting - left (of engine bay)	Remove and Install	9.2
Complete engine - PAS+AC	Strip and rebuild	37.9
Cylinder head		
Camshaft/valve cover & gasket	Remove and Install	3.1
Cylinder head gasket	Remove and Install	20.6
Cylinder head	Strip and rebuild	26.4
Valves (all) including lapping	Remove and Install	28.2
Valve stem oil seals (all)	Remove and Install	25
Camshaft & drive gear		
Camshafts (both/all)	Remove and Install	12.4
Camshaft drive sprocket/gear - AC	Remove and Install	16.8
Camshaft driven sprockets/gears (both/all)	Remove and Install	11.5
Camshaft drive chain	Remove and Install	16.6
Camshaft drive chain tensioner	Remove and Install	16
Crankshaft & pistons		
Conrods & pistons (all) - PAS+AC	Remove and Install	23.6
Lubrication		
Oil sump pan - upper - PAS+AC	Remove and Install	10.3
Oil filter and engine oil	Remove and Install	0.7
Oil sump pan - lower	Remove and Install	4
Oil cooler	Remove and Install	2.8
Auxiliary drive		
Water pump drive 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
Throttle controls		
Throttle pedal	Remove and Install	0.2
Diesel injection system		
Control ECU	Remove and Install	0.5
Air flow/Mass sensor unit	Remove and Install	0.5
Coolant temperature sensor	Remove and Install	1
High pressure fuel pump (Common rail) - PAS	Remove and Install	4.1
Injectors (all)	Remove and Install	3.1
Injection pipe (one)	Remove and Install	2.6
Pre-heat plugs (all)	Remove and Install	2.9
Pre-heating system relay (one)	Remove and Install	0.2
Throttle body	Remove and Install	0.6
Fuel supply diesel		

Fuel pump - in tank	Remove and Install	2
Fuel tank	Remove and Install	1.7
Fuel filter (in-line)	Remove and Install	0.5
Turbocharger		
Turbocharger	Remove and Install	3.3
Turbocharger boost pressure sensor	Remove and Install	0.4
Radiator, fan & intercooler		
Cooling fan coupling	Remove and Install	1.5
Cooling fan	Remove and Install	1.5
Radiator - PAS	Remove and Install	2.2
Thermostat	Remove and Install	1.6
Intercooler	Remove and Install	0.4
Pump & drive		
Water pump	Remove and Install	1.8
Header tank & hoses		
Header/expansion tank	Remove and Install	0.3
Radiator top hose	Remove and Install	0.9
Radiator bottom hose	Remove and Install	0.9
Header/expansion tank hose	Remove and Install	0.3
By-pass hose	Remove and Install	2.3
Manifold, pipes & silencers		
Exhaust manifold	Remove and Install	3.5
Exhaust manifold gasket	Remove and Install	3.5
Manifold to downpipe gasket	Remove and Install	0.5
Pipe - front/downpipe	Remove and Install	0.5
Pipe - middle/silencer	Remove and Install	0.4
Pipe - rear/tail/silencer	Remove and Install	0.3
Exhaust gas aftertreatment		
Catalytic converter	Remove and Install	1.9
Lambda sensor	Remove and Install	0.8
Exhaust gas recirculation valve	Remove and Install	2.5
Exhaust gas recirculation (EGR) cooler	Remove and Install	2.4
Torque converter & driveplate		
Converter	Remove and Install	4
Driveplate	Remove and Install	3.8
Automatic transmission, housing & fluid system		
Transmission unit	Remove and Install	4.5
Oil pan & gasket	Remove and Install	1.3
Control, governor & valves		
Solenoid valves	Remove and Install	2
Manual selector lever	Remove and Install	0.8
Manual selector cable/rod	Remove and Install	1.1
Valve block	Remove and Install	1.8
Propshaft, centre differential & transfer box		
Propshaft - front/single	Remove and Install	1.3
Propshaft - complete	Remove and Install	0.8
Propshaft coupling/flange	Remove and Install	1.2
Transfer box - AT	Remove and Install	4.5

Transfer box output oil seal	Remove and Install	1.1
Transfer box input oil seal	Remove and Install	1.6
<b>Front axle</b>		
Final drive	Remove and Install	2.9
Driveshaft - left	Remove and Install	1.9
Driveshaft - right	Remove and Install	1.9
Driveshaft (both)	Remove and Install	2.3
Driveshaft seal-inner left	Remove and Install	1.5
Driveshaft joint gaiter - outer left	Remove and Install	1.7
Driveshaft joint gaiter - inner left	Remove and Install	1.7
Wheel bearing set	Remove and Install	1.6
Wheel bearing set (both)	Remove and Install	2.4
Hub assembly	Remove and Install	1.6
Hub assembly (both)	Remove and Install	2.4
<b>Rear axle</b>		
Rear axle - complete	Remove and Install	4.9
Final drive	Remove and Install	3.3
Final drive pinion oil seal	Remove and Install	1.2
Halfshaft	Remove and Install	2.8
Halfshaft (both)	Remove and Install	4.3
<b>Front suspension</b>		
Strut top mounting	Remove and Install	1.6
Strut top mounting (both)	Remove and Install	1.9
Road spring	Remove and Install	1.6
Road spring (both)	Remove and Install	1.9
Shock absorber	Remove and Install	1.6
Shock absorbers (pair)	Remove and Install	1.9
Suspension upper arm	Remove and Install	1.4
Suspension lower arm	Remove and Install	2.5
Suspension lower arm (both)	Remove and Install	3.2
Anti-roll bar	Remove and Install	0.9
Anti-roll bar bush - centre (one)	Remove and Install	0.3
Anti-roll bar bushes (all)	Remove and Install	0.4
Swivel hub/stub axle assembly	Remove and Install	1.7
<b>Rear suspension</b>		
Road spring	Remove and Install	1.2
Road spring (both)	Remove and Install	1.4
Shock absorber	Remove and Install	0.5
Shock absorbers (pair)	Remove and Install	0.6
Suspension lower arm	Remove and Install	0.5
Suspension lower arm (both)	Remove and Install	0.7
Anti-roll bar	Remove and Install	0.5
Anti-roll bar bushes (all)	Remove and Install	0.5
<b>Suspension control</b>		
Suspension control module	Remove and Install	0.5
<b>Steering mechanism</b>		
Steering rack/box	Remove and Install	9.4
Rack gaiter	Remove and Install	1.5
Track rod (without wheel alignment)	Remove and Install	0.9
Track rod end joint (includes wheel alignment)	Remove and Install	1.6

Track rod end joint (both, includes wheel alignment)	Remove and Install	1.8
Steering column		
Steering wheel	Remove and Install	0.4
Steering column	Remove and Install	1.3
Steering column shroud	Remove and Install	0.2
Power assisted steering		
Pump	Remove and Install	0.9
High pressure hose	Remove and Install	8.8
Braking system hydraulics		
Fluid reservoir	Remove and Install	2.3
Master cylinder	Remove and Install	2.2
Front brake caliper (one)	Remove and Install	1.3
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	1.3
Front brake hose (one)	Remove and Install	0.9
Rear brake hose (one)	Remove and Install	0.9
Footbrakes		
Front brake pads (all)	Remove and Install	0.8
Rear brake pads (all)	Remove and Install	1
Front brake disc (both)	Remove and Install	0.7
Rear brake disc (both)	Remove and Install	0.8
Rear backplate (one)	Remove and Install	2.4
Brake pedal & servo		
Pedal assembly	Remove and Install	2.3
Vacuum pump - diesel	Remove and Install	2.3
ABS or ABS/ESP		
Wheel sensor - front (one)	Remove and Install	0.5
Wheel sensor - front (both)	Remove and Install	0.7
Wheel sensor - rear (one)	Remove and Install	0.4
Wheel sensor - rear (both)	Remove and Install	0.5
Parking brake		
Parking brake lever	Remove and Install	0.9
Parking brake cables - (both) equal length	Remove and Install	2.9
Battery & cables		
Battery	Check	0.6
Battery	Remove and Install	0.3
Charging system		
Alternator	Remove and Install	0.6
Voltage regulator	Remove and Install	0.8
Starting system		
Starter motor - pre-engaged	Remove and Install	3.7
Starter motor solenoid	Remove and Install	3.7
Bulbs		
Headlamp bulb	Remove and Install	0.2
Side lamp bulb	Remove and Install	0.3
Fog lamp bulb, front	Remove and Install	0.3
Direction indicator lamp bulb, front	Remove and Install	0.2
Rear combination bulb (any)	Remove and Install	0.2
Licence plate lamp bulb	Remove and Install	0.2

<b>Front lamps</b>		
Headlamp alignment	Check and Adjust	0.3
Headlamp - one	Remove and Install	1.4
Fog lamp - one	Remove and Install	0.6
Side repeater lamp - one	Remove and Install	0.3
<b>Rear lamps</b>		
Rear combination lamp lens	Remove and Install	0.9
Number plate lamp - one	Remove and Install	0.2
High mounted brake lamp	Remove and Install	0.4
<b>Interior lamps</b>		
Rear door lamp	Remove and Install	0.2
Interior lamp - front	Remove and Install	0.2
Interior lamp - rear	Remove and Install	0.2
<b>Switches</b>		
Ignition switch	Remove and Replace	0.3
Direction indicator switch	Remove and Install	0.5
Main lighting switch	Remove and Install	0.5
Horn switch	Remove and Install	0.2
Wash/wipe switch	Remove and Install	0.3
Hazard warning lights switch	Remove and Install	0.3
Inhibitor switch	Remove and Install	0.4
Reversing lights switch	Remove and Install	0.3
Stop lamps switch	Remove and Install	0.3
Parking brake warning lamp switch	Remove and Install	0.5
Front door lamp switch	Remove and Install	0.2
Boot lamp switch	Remove and Install	0.2
<b>Instruments</b>		
Instrument panel	Remove and Install	0.4
<b>Transducers, sensors &amp; transmitters</b>		
Horn	Remove and Install	0.3
Oil pressure transmitter	Remove and Install	0.5
Speedo drive sensor	Remove and Install	0.4
Fuel level sensor	Remove and Install	1.7
<b>Fusebox &amp; Relays</b>		
Headlamps relay	Remove and Install	0.2
Starter relay	Remove and Install	0.2
Heated rear window relay	Remove and Install	0.2
Horn relay	Remove and Install	0.2
<b>Motors</b>		
Front wiper motor	Remove and Install	0.5
Rear wiper motor	Remove and Install	0.5
Front washer motor	Remove and Install	0.8
Rear washer motor	Remove and Install	0.8
Headlamp washer motor	Remove and Install	0.8
Front door window lift motor	Remove and Install	0.6
Rear door window lift motor	Remove and Install	0.7
Door mirror motor	Remove and Install	0.8
<b>Control &amp; audio units</b>		
Radio/cassette unit	Remove and Install	0.4
Roof aerial/antenna	Remove and Install	2.9

Central processing unit	Remove and Install	0.6
Central locking control unit	Remove and Install	0.9
Windscreen wipers/washers		
Wiper blade (both)	Remove and Install	0.1
Wiper linkage	Remove and Install	0.5
Washer jet - (both)	Remove and Install	0.2
Wiper arm - (both)	Remove and Install	0.3
Washer reservoir	Remove and Install	0.1
Headlamp wipers/washers		
Washer jet - one	Remove and Install	0.6
Rear screen wipers/washers		
Wiper blade		0.2
Wiper arm		0.5
Washer jet		0.2
Heating & ventilation system		
Heater hose - to engine	Remove and Install	0.9
Heater matrix	Remove and Install	6.8
Heater matrix - AC	Remove and Install	7.7
Heater blower motor	Remove and Install	0.2
Heater blower control module/resistor - front	Remove and Install	0.2
Air conditioning		
Receiver/drier	Remove and Install	3.1
Compressor	Remove and Install	1.8
Compressor clutch	Remove and Install	1.9
Expansion valve - front	Remove and Install	7.6
Condenser	Remove and Install	3
Evaporator - front	Remove and Install	7.9
Evaporator - rear	Remove and Install	2.7
Air conditioning control panel	Remove and Install	0.2
Switch - high/triple pressure	Remove and Install	1.2
Front bumper/spoiler		
Front bumper - complete	Remove and Install	0.8
Spoiler	Remove and Install	0.3
Bonnet		
Bonnet release cable	Remove and Install	0.6
Windscreen		
Windscreen	Remove and Install	3
Front door		
Door window	Remove and Install	0.5
Window winder mechanism	Remove and Install	0.6
Lock barrel	Remove and Install	0.2
Door mirror	Remove and Install	0.3
Rear door		
Door window	Remove and Install	0.6
Window winder mechanism	Remove and Install	0.7
Quarter light	Remove and Install	0.4
Interior/Seats/Seatbelts		
Airbag - driver	Remove and Replace	0.4
Airbag - passenger	Remove and Replace	3.6
Side airbag - front (one)	Remove and Replace	0.9

Airbag curtain - one	Remove and Replace	2.3
Airbag spiral cable/slip ring (clock spring)	Remove and Replace	0.5
Front seat belt	Remove and Install	0.6
Rear seat belt - outer	Remove and Install	1
Body rear section		
Rear bumper	Remove and Install	0.8
Rear window - fixed	Remove and Install	3.2
Rear window - fixed - 5 door	Remove and Install	3.9
Rear screen	Remove and Install	2.5