

RECOMMENDED REPAIR TIMES

The repair times in this manual are estimated flat repair times.

The times shown reflect the average time for a competent tradesman with reasonable product knowledge to carry out the operation.

Allowances have been included for items such as driving the vehicle in and out of the workshop, road testing, collecting parts from the stores of the suppliers, and completing relevant documentation.

No allowance has been made to include the use of special tools, the freeing up of seized or rusty parts, the removal of broken studs and the removal of accessories and non-standard fitments

DEFINITION OF OPERATIONS

ENGINE

Engine and Gearbox R&R

R&R Engine and gearbox as a unit, reset engine operations, and ensure engine is operating normally.

Piston Rings/Valves/Bearings (R&R) (Engine Removed)

Remove Cylinder head/s, Sump, Con rods and pistons. Check condition of crankshaft journals, pistons, bores. Replace piston rings, Main and big end bearings. Reface valves and seats. Check operation and/or condition of oil pump and relief valve, Renew oil filter. Replace engine core plugs as required. Reassemble and ensure engine is operating normally.

Rear Main Seal R&R

Dismantle as required to enable correct removal of seal. Replace oil seal and reassemble as required.

Stationary Gear Oil Seal R&R

Operation includes time to R&R transmission, flywheel or drive plate.

Eccentric Shaft , Needle Bearing and/or Blind Plate R&R

Operation includes time to R&R transmission, flywheel or drive plate.

Oil Baffle Plate/Spacer/Distributor Drive Gear R&R

Short Motor R&R

R&R Engine, Remove cylinder head/s and reface valves. Transfer all auxiliary equipment, Check oil pump and relief valve operation. Check and adjust valve clearances as required, and ensure that the engine is operating normally. Any additional operations to these procedures are to be charged separately.

Long Motor R&R

R&R Engine. Transfer all auxiliary equipment. Check and adjust valve clearances as required, and ensure that the engine is operating normally. Any additional operations to these procedures are to be charged separately.

Engine Sump R&R

R&R engine sump. Where required, this operation includes R&R of Engine.

Engine Oil Pump R&R

Dismantle as required to R&R oil pump

Oil Pump Gear/Balance Weight/Thrust Washer/Needle Bearing/Spacer R&R

Cylinder Head R&R

Remove cylinder head. Replace head gasket and replace cylinder head. Check and adjust valve clearances as required, and ensure that the engine is operating normally. On OHC vehicles, reset the valve timing.

Cylinder Head R&R (RH Side) V Engine

Remove cylinder head. Replace head gasket and replace cylinder head. Check and adjust valve clearances as required, and ensure that the engine is operating normally. On OHC vehicles, reset the valve timing. On V-engines, remove intake manifold or valley cover as required when only one head is removed.

Cylinder Head R&R (LH Side) V Engine

Remove cylinder head. Replace head gasket and replace cylinder head. Check and adjust valve clearances as required, and ensure that the engine is operating normally. On OHC vehicles, reset the valve timing. On V-engines, remove intake manifold or valley cover as required when only one head is removed.

Cylinder Head R&R (Both) V Engine

Remove intake manifold or valley cover as required. Remove both

cylinder heads. Replace head gaskets and replace cylinder heads. Check and adjust valve clearances as required, and ensure that the engine is operating normally.

Cylinder Head Valve Grind Valve Grind

(Head Removed) (One Only)

Reface valves and seats and reassemble as required.

Cylinder Head Strip and Rebuild (Inc R&R of Head/s)

Remove cylinder head/s and reface valves and seats and reassemble as required. Check and adjust valve clearances as required, and ensure that the engine is operating normally.

Cam Followers/Hydraulic Tappet R&R (One Only)

Includes all disassembly and reassembly to R&R one cam follower/hydraulic tappet

Cam Followers/Hydraulic Tappet R&R (All)

Includes all disassembly and reassembly to R&R all cam followers/hydraulic tappets

Tappet/Valve Clearance Adjustment

R&R rocker cover/s. Renew gasket/s and check and adjust clearances. Where clearances are adjusted by shims, operation includes R&R of camshaft/s.

Timing Belt/Chain R&R

Includes R&R of front cover and timing belt/chain

Front Crankshaft Seal (Timing Cover) R&R

R&R crankshaft pulley/harmonic balancer, relevant cover/s and replace seal

Camshaft Seal/s R&R

R&R any components relevant to removing and replacement of the camshaft seal/s

Front Engine Mounting R&R (RH)

R&R as required

Front Engine Mounting R&R (LH)

R&R as required

Rear Engine Mounting/Transmission Mounting R&R

R&R as required

EFI/FUEL SYSTEM

Airflow Sensor/MAF Sensor/MAP Sensor/MAP Sensor

R&R as required

Cold Start Injector R&R

R&R as required

Carburettor R&R

R&R carburetor, Where stated, dismantle, overhaul, clean and adjust as required

Air Cleaner Element R&R

Remove air cleaner element from casing and replace as required.

ECU/ECM/PCM R&R

R&R as required

Fuel Pump R&R

Remove from engine block (mechanical), or from fuel tank/system (electrical) and replace as required.

Fuel Tank R&R

Remove fuel tank from vehicle, transfer components, and replace as required.

Fuel Tank Sender Unit R&R

This operation includes R&R of fuel tank where required.

Fuel Filter R&R

Remove and replace filter as required.

Fuel Injectors (R&R) Full Set

Remove and replace full set of injectors as required

Turbocharger/Supercharger R&R

Remove and replace Turbocharger/Supercharger as required.

O2 Sensor (One Only)

Remove and replace sensor as required.

Injector Pump (R&R, Bleed and Reset Timing)

Operation is only applicable to Diesel engines only

EXHAUST

Exhaust Manifold Gaskets R&R (One Only)

R&R Exhaust manifold gaskets/s and replace as required

Inlet Manifold Gaskets R&R (One Only)

R&R Inlet manifold gaskets/s and replace as required

Engine Pipe R&R (One Only)

R&R Engine pipe and replace as required

Intermediate Pipe R&R (One Only)

R&R Intermediate pipe and replace as required

Tail Pipe R&R (One Only)

R&R Tail Pipe and replace as required

Center Muffler R&R (One Only)

R&R center muffler and replace as required

Front Muffler R&R (One Only)

R&R front muffler and replace as required

Rear Muffler R&R (One Only)

R&R rear muffler and replace as required

Catalytic Converter R&R (One Only)

R&R catalytic converter as required (one only)

Complete System R&R

Remove system complete and replace

COOLING SYSTEM

Heater Core R&R (With A/C)

R&R heater core as required

Heater Core R&R (Without A/C)

R&R heater core as required

Bypass Hose R&R

R&R bypass hose as required

Bottom Radiator Hose R&R

R&R lower radiator hose R&R and replace as required.

Top Radiator Hose R&R

R&R top radiator hose R&R and replace as required.

Radiator R&R

R&R radiator, drain and refill cooling system as required.

Water Pump/Alternator Drive Belt R&R

R&R belt and adjust as required

Thermostat R&R

R&R thermostat as required

Water Pump R&R

R&R water pump and adjust drive belt

IGNITION SYSTEM

Distributor/Firing Sensor R&R

R&R distributor/firing sensor as required

Ignition Coil (Single/Each Coil R&R)

R&R ignition coil/s as required

High Tension Leads R&R

R&R high tension leads as a set

Ignition Switch R&R

R&R ignition switch as required

Spark Plugs R&R

R&R spark plugs as a set

Glow Plugs R&R (Diesel Only)

R&R glow plugs as a set

Knock Sensor (One Only)

R&R Sensor as required

Crank Speed/Crank Position/Cam Position Sensor R&R

R&R Sensor/s as required

ELECTRICAL SYSTEM

Alternator R&R

R&R Alternator as required

Alternator (R&R and Overhaul)

R&R alternator, strip, rebuild and reassemble as required

Voltage Regulator R&R

R&R alternator as required and replace voltage regulator

Headlamp Switch R&R

R&R switch as required

Heater Fan Motor R&R

R&R fan motor as required

Indicator Switch R&R

R&R switch as required

Speedometer R&R

R&R speedometer as required

Speedometer Cable R&R

R&R speedometer cable as required

Speedo Drive/Sensor R&R

R&R sensor as required

Starter Motor R&R

R&R starter motor as required

Starter Motor (R&R and Overhaul)

R&R starter motor, strip, rebuild and reassemble as required

CLUTCH SYSTEM

Clutch Assembly R&R

R&R either engine or transmission as required. Remove and replace clutch cover, plate and release bearing as required. Lubricate crankshaft spigot bearing as required, reassemble and adjust as required.

Clutch Cable R&R

R&R cable and adjust as required

Flywheel R&R

R&R either engine or transmission as required. Remove and replace clutch cover, plate and release bearing as required. Lubricate crankshaft spigot bearing as required. Replace flywheel, reassemble and adjust clutch as required.

Clutch Master Cylinder R&R

R&R master cylinder as required

Clutch Master Cylinder (Overhaul)

R&R master cylinder and strip and rebuild as required

Clutch Slave Cylinder R&R

R&R slave cylinder as required

Clutch Slave Cylinder (Overhaul)

R&R slave cylinder and strip and rebuild as required

TRANSMISSION

Transmission R&R (Manual)

R&R Transmission as required. (Time includes R&R engine and gearbox if required)

Transmission R&R (Auto)

R&R Transmission as required.

Transfer Box R&R (4WD Only)

R&R Transfer box as required.

Transmission Overhaul (Manual) Includes R&R Transmission

R&R Transmission as required. Strip down gearbox and replace any damaged parts as required. Reassemble and refit as required.

Transmission Overhaul (Auto) Transmission Removed

R&R Transmission as required. Strip down gearbox and replace any damaged parts as required. Reassemble and as required.

Transfer Box Overhaul (4WD Only)

R&R Transfer box as required. Strip down transfer box and replace any damaged parts as required. Reassemble and refit required.

Transmission Service (Auto)

Check condition of auto transmission fluids. Drain and refill fluids, clean and/or replace transmission filter, adjust bands as required, check and adjust all linkages as required.

Auto Transmission Drive Plate R&R

R&R either engine or transmission as required. Remove torque converter if required. Lubricate crankshaft spigot bearing as required. Replace drive plate, reassemble as required.

Torque Converter R&R

R&R either engine or transmission as required. Remove torque converter. Lubricate crankshaft spigot bearing as required. Replace torque converter and reassemble as required.

Governor Assembly (Auto) R&R

R&R governor as required

Valve Body (Auto) R&R

R&R valve body as required

Neutral Start Switch R&R (Auto)

R&R switch and carry any required adjustment

Main Oil Pump R&R

R&R pump as required

Rear Extension Housing Seal (RWD) R&R

Remove tail shaft and replace seal as required

Transfer Case Seals R&R

R&R Seal/s as required

Gear Shift Lever R&R or Adjust

R&R gear lever and adjust as required

Transmission Front Oil Seal R&R

R&R transmission and replace front seal as required

Transmission Inner Front Oil Seal R&R

R&R front driveshaft and replace as required

FRONT AXLE AND DIFFERENTIAL**Front Differential R&R (4WD)**

R&R front axle drive shafts, tail shaft/s, and any other components relevant to removing the differential

Front Differential R&R (FWD)

R&R front axle drive shafts, R&R transmission only or engine/transmission and any other components relevant to removing the differential

Front LSD Unit (FWD) R&R

R&R front axle drive shafts, R&R transmission only or engine/transmission and any other components relevant to removing the differential

Front Differential Overhaul (4WD)

R&R front axle drive shafts, tail shaft/s, and any other components relevant to removing the differential. Strip down differential and replace any damaged parts as required. Reassemble and as required.

Front Differential Overhaul (FWD)

R&R front axle drive shafts, R&R transmission only or engine/transmission and any other components relevant to removing the differential. Strip down differential and replace any damaged parts as required. Reassemble and as required.

Front Differential Pinion Oil Seal R&R (4WD)

R&R front tail shaft/s, flange, and replace seal as required

Front Axle Housing R&R

R&R all components relevant to the removing of the axle housing as a complete unit

Front Axle Shaft R&R

R&R all relevant components to ensure that the drive shaft can be removed and replaced

Front CV Joint Outer R&R

R&R all relevant components to ensure that the outer CV joint can be removed and replaced

Front CV Joint Inner R&R

R&R all relevant components to ensure that the inner CV joint can be removed and replaced

Front Wheel Bearing Oil Seal/s R&R

R&R all relevant components to ensure that the front wheel bearing seal/s can be removed and replaced

Front Wheel Bearing and Oil Seal/s Set R&R

R&R all relevant components to ensure that the front wheel bearing and oil seal/s set can be removed and replaced

Front Hub R&R

R&R all relevant components to ensure that the front hub can be removed and replaced

Front Axle Swivel Housing Seals (1 Side) R&R

R&R all relevant components to ensure that the swivel housing seal/s can be removed and replaced

Front Axle Swivel Housing Overhaul (1 Side)

R&R all relevant components to ensure that the swivel housing can be stripped and damaged parts can be removed replaced and reassembled

Front CV Joint Boot Outer R&R

R&R all relevant components to ensure that the outer CV joint boot can be removed and replaced

Front CV Joint Boot Inner R&R

R&R all relevant components to ensure that the inner CV joint boot can be removed and replaced

REAR AXLE/DIFFERENTIAL**Propeller Shaft Single/Front R&R**

R&R tail shaft assembly

Propeller Shaft Rear Section R&R

R&R rear tail shaft assembly

Propeller Shaft Universal Joints/Coupling/CV Joint R&R

R&R all relevant components to ensure that the relevant joint/coupling can be removed and replaced

Propeller Shaft Universal Joint R&R

Time allowed is for replacing individual joint and does not include R&R of tail shaft.

Propeller Shaft Center Bearing R&R

R&R all relevant components to ensure that the center bearing can be removed and replaced

Rear Axle Shaft R&R

R&R all relevant components to ensure that the axle shaft can be removed and replaced

Rear Wheel Bearing Oil Seal/s R&R

R&R all relevant components to ensure that the rear wheel bearing seal/s can be removed and replaced

Front Wheel Bearing and Oil Seal/s Set R&R

R&R all relevant components to ensure that the rear wheel bearing and oil seal/s set can be removed and replaced

Rear Drive Shaft Boot/s R&R

R&R all relevant components to ensure that the rear drive shaft joint/s boot can be removed and replaced

Rear Drive Shaft Joint/Universal Joint/s R&R

R&R all relevant components to ensure that the relevant joint/s can be removed and replaced

Rear Differential Pinion Oil Seal R&R

R&R rear tail shaft/s, flange, and replace seal as required

Rear Axle Tube/X Member/Sub Frame R&R

R&R all relevant components to ensure that the rear axle tube/x member/subframe can be removed and replaced

Rear Hub R&R

R&R all relevant components to ensure that the rear hub can be removed and replaced

Rear Axle Housing (RWD/4WD) R&R

R&R all components relevant to the removing of the axle housing as a complete unit

Rear Differential Overhaul (Off Vehicle)

Strip down differential and replace any damaged parts as required. Reassemble as required.

Rear Differential R&R

R&R rear axle drive shafts, tail shaft/s, and any other components relevant to removing the differential

Rear Differential LSD Unit (RWD/4WD) R&R

R&R rear axle drive shafts, tail shaft/s, and any other components relevant to removing the LSD unit

Rear LSD Unit Overhaul (Off Vehicle)

Strip down differential and LSD unit and replace any damaged parts as required. Reassemble as required.

BRAKES**Front Pads (Both Sides) R&R**

R&R all components relevant to the replacing the front brake pads

Front Brake Shoes (Both Sides) R&R

R&R all components relevant to the replacing the front brake shoes and adjust to suit

Front Caliper R&R

R&R all components relevant to the replacing the front brake caliper

Front Wheel Cylinders R&R

(1 Side, Inc R&R 1 Side Front Brake Shoes)
R&R all components relevant to the replacing 1 Side front brake shoes and cylinder/s, and adjust to suit

Front Caliper Overhaul (1 Side)

R&R all components relevant to the removing and overhauling the front brake caliper

Front Disc R&R (1 Side)

R&R all components relevant to the removing and replacing the front brake disc

Front ABS Sensor R&R (1 Side)

R&R all components relevant to the replacing the front brake ABS Sensor

Rear Pads (Both Sides) R&R

R&R all components relevant to the replacing the rear brake pads
Rear Brake Shoes (Both Sides) R&R
R&R all components relevant to the replacing the rear brake shoes and adjust to suit

Rear Caliper R&R

R&R all components relevant to the replacing the rear brake caliper

Rear Wheel Cylinders R&R

(1 Side, Inc R&R 1 Side Rear Brake Shoes)
R&R all components relevant to the replacing 1 Side rear brake shoes and cylinder/s, and adjust to suit

Rear Caliper Overhaul (1 Side)

R&R all components relevant to the removing and overhauling the rear brake caliper

Rear Front Disc R&R (1 Side)

R&R all components relevant to the removing and replacing the rear

brake disc

Rear ABS Sensor R&R (1 Side)

R&R all components relevant to the replacing the rear brake ABS Sensor

Front Handbrake Cable R&R

R&R all components relevant to the removing and replacing the front handbrake cable

Rear Handbrake Cable R&R

R&R all components relevant to the removing and replacing the rear handbrake cable

Handbrake Adjustment

All operations needed to adjust front and/or rear brakes where required, check for leaks in the system components

Bleed System

Evacuate air from the system, ensure that the master cylinder is full, reset brake warning lamp switch

Brake Master Cylinder R&R

R&R all components involved in the replacement of the brake master cylinder

Brake Master Cylinder R&R and Overhaul

R&R all components involved in the removal and overhaul of the brake master cylinder

Brake Booster R&R

R&R all components involved in the replacement of the brake booster

Brake Light Switch R&R

R&R all components involved in the replacement of the brake light switch

Brake Proportioning Valve R&R

R&R all components involved in the replacement of the brake-proportioning valve

FRONT SUSPENSION**Front Suspension Assembly/Front Suspension 1 Side R&R**

R&R all components involved in the replacement of the front suspension assy/front suspension

Front Shock Absorbers R&R (1 Side)

R&R all components involved in the replacement of the front shock absorbers

Front Strut R&R (1 Side)

R&R all components involved in the replacement of the front strut

Front Spring/Torsion Bar R&R (1 Side)

R&R all components involved in the replacement of the front spring/torsion bar

Front Shackle Pins (Swinging) and Bushes R&R (1 Side)

R&R all components involved in the replacement of the front shackle pins (swinging) and bushes

Front Shackle Pins (Fixed) and Bushes R&R (1 Side)

R&R all components involved in the replacement of the front shackle pins (swinging) and bushes

Front Spring Center Bolt R&R (1 Side)

R&R all components involved in the replacement of the front spring center bolt

Stabiliser Bar/Front Radius Rod/Anti Roll Bar R&R (1 Side)

R&R all components involved in the replacement of the front stabiliser bar/front radius rod/anti roll bar

Steering Knuckle/Stub Axle R&R (1 Side)

R&R all components involved in the replacement of the front steering knuckle/stub axle

Front Suspension Arm Tie Bar R&R (1 Side)

R&R all components involved in the replacement of the front suspension arm tie bar

Lower Control Arm/Leading Arm R&R (1 Side)

R&R all components involved in the replacement of the lower control arm/leading arm

Lower Ball Joint R&R (1 Side)

R&R all components involved in the replacement of the lower ball joint

Lower Control Arm Inner Pins and Bushes R&R (1 Side)

R&R all components involved in the replacement of the lower control arm inner pins and bushes

Lower Control Arm Outer Pins and Bushes R&R (1 Side)

R&R all components involved in the replacement of the lower control arm outer pins and bushes

Front Suspension Upper Control Arm R&R (1 Side)

R&R all components involved in the replacement of the upper control arm

Upper Ball Joint R&R (1 Side)

R&R all components involved in the replacement of the upper ball joint

Upper Control Arm Inner Pins and Bushes R&R (1 Side)

R&R all components involved in the replacement of the upper control arm inner pins and bushes

Upper Control Arm Outer Pins and Bushes R&R (1 Side)

R&R all components involved in the replacement of the upper control arm outer pins and bushes

Front X Member/Subframe/Axle Beam R&R

R&R all components involved in the replacement of the front X member/subframe/axle beam

Front Anti Roll Bar Pins/Links and Bushes R&R (1 Side)

R&R all components involved in the replacement of the front anti roll bar pins/links and bushes

King Pins and Bushes R&R (1 Side)

R&R all components involved in the replacement of the kingpins and bushes

REAR SUSPENSION**Rear Shock Absorbers R&R (1 Side)**

R&R all components involved in the replacement of the rear shock absorbers

Rear Strut R&R (1 Side)

R&R all components involved in the replacement of the rear strut

Rear Spring/Torsion Bar R&R (1 Side)

R&R all components involved in the replacement of the rear spring/torsion bar

Rear Shackle Pins (Swinging) and Bushes R&R (1 Side)

R&R all components involved in the replacement of the rear shackle pins (swinging) and bushes

Rear Shackle Pins (Fixed) and Bushes R&R (1 Side)

R&R all components involved in the replacement of the rear shackle pins (swinging) and bushes

Rear Spring Center Bolt R&R (1 Side)

R&R all components involved in the replacement of the rear spring center bolt

Rear Suspension Complete/1 Side R&R

R&R all components involved in the replacement of the rear suspension assembly and/or 1 Side rear suspension

Rear Suspension Control Arm R&R (1 Side)

R&R all components involved in the replacement of the rear suspension control arm

Rear Suspension Lower Control Arm R&R (1 Side)

R&R all components involved in the replacement of the rear suspension lower control arm

Rear Suspension Control Arm Bushes R&R (1 Side)

R&R all components involved in the replacement of the rear suspension control arm bushes

Rear Anti Roll/ Stabiliser Bar Pins/Links and Bushes R&R

(1 Side)

R&R all components involved in the replacement of the rear anti roll bar/stabiliser pins/links and bushes

Rear Anti Roll/ Stabiliser Bar R&R

R&R all components involved in the replacement of the rear anti roll bar/stabiliser bar

Rear Suspension Lower Ball Joint

R&R all components involved in the replacement of the rear suspension lower ball joint

Rear Trailing Arm/Semi Trailing Arm/Tie Bar R&R (1 Side)

R&R all components involved in the replacement of the rear suspension rear trailing arm/semi trailing arm/tie bar

Rear Suspension Upper Tie Bar R&R (1 Side)

R&R all components involved in the replacement of the rear suspension upper tie bar

Rear Stub Axle R&R (1 Side)

R&R all components involved in the replacement of the rear stub axle

Rear Suspension Lower Tie Bar R&R (1 Side)

R&R all components involved in the replacement of the rear suspension lower tie bar

STEERING**Steering Tie Rod End /Joint R&R (1 Side)**

R&R all components involved in the replacement of the Steering tie rod end /joint

Steering Idler Arm/Bush/Drop Arm R&R (1 Side)

R&R all components involved in the replacement of the steering idler arm/bush/drop arm

Steering Wheel R&R

R&R all components involved in the replacement of the steering wheel

Steering Column R&R

R&R all components involved in the replacement of the steering column

Steering Box/Steering Rack R&R (Manual Steering)

R&R all components involved in the replacement of the steering box/steering rack

Steering Rack Boot R&R (Manual Steering)

R&R all components involved in the replacement of the steering rack boot

Steering Box/Steering Rack Overhaul (Manual Steering)

R&R all components involved in the overhaul of the steering box/steering rack

Power Steering Pump R&R

R&R all components involved in the replacement of the power steering pump

Power Steering Pump (Overhaul)

R&R all components involved in the overhaul of the power steering pump

Steering Box/Steering Rack R&R (Power Steering)

R&R all components involved in the replacement of the power steering box/steering rack

Steering Rack Boot R&R (Power Steering)

R&R all components involved in the replacement of the power steering rack boot

Steering Box/Steering Rack Overhaul (Power Steering)

R&R all components involved in the overhaul of the power steering box/steering rack

EXPLANATION OF TERMS USED IN THIS MANUAL

R&R	-	Remove and Replace component or assembly, carrying out relevant adjustments.
Renew	-	Remove the faulty component and replace with a new one, carrying out relevant adjustments.
AC or A/C	-	Air conditioning
AT or A/T	-	Auto transmission / Transaxle
LH	-	Left hand side
LHD	-	Left hand drive vehicles
MT or M/T	-	Manual Transmission / Transaxle
OH	-	Overhaul component(s)
PS or P/S	-	Power steering
RH	-	Right hand side
RHD	-	Right hand drive vehicles

CALCULATING LABOUR CHARGES

The repair times are broken down into both tenths of an hour (0.1), each tenth being six minutes, and also into quarter hours (0.25), each quarter being 15 minutes. Please refer to the chart below:

0.1	6 minutes
0.2	12 minutes
0.25	15 minutes
0.3	18 minutes
0.4	24 minutes
0.5	30 minutes
0.6	36 minutes
0.7	42 minutes
0.75	45 minutes
0.8	48 minutes
0.9	54 minutes
1.0	60 minutes / 1 hour.

The costing is completed by referring to the Labour Charge Calculator.

Example:

If your hourly rate is \$50.00 per hour and your repair operation has taken 15.5 hours.

1-	Refer to the Labour Charge Calculator and read:	10 hours @ \$50 per hour	\$500.00
2-	Refer to the Labour Charge Calculator and read:	5.5 hours @ \$50 per hour	\$275.00
3-	Total		\$775.00

Non Availability of Certain Repair Times

All efforts have been made to supply a full list of repair times for the operations for the operations we have set out. Unfortunately, due to the unavailability of some repair times from the vehicle manufacturers at the time of going to press, this has not been possible. We are making every effort to have this complete in time for our next publication.

Note:

All Repair Times given are relevant and subjected to the related tasks.

A particular time may not cover additional times for removal, repair, replacement or installation of additional components. Manufacturers do not always incorporate these times to the relevant operation/task(s).

For example:

If the timing belt is replaced on a vehicle, the Service Technician may have to add the additional required time taken, to remove and replace, for example, the Water Pump and gaskets (if necessary); etc. This time, however, is required to be in accordance with the relevant times given by the Manufacturer for specific additional task(s) undertaken. It is recommended that the Service Technician should visually inspect the task to be performed before giving quotes to customers.

Boyce's Automotive Data does not accept responsibility for inaccuracies by Service Technicians with these additional times or the Manufacturers decision to omit these tasks/times from the original times of repair.