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# PERKINS ENGINES COMPANY LTD

# **WARRANTY MANUAL SUPPLEMENT**

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Published by Warranty Administration Department,

Perkins Engines Company Limited, Peterborough PE1 5NA, England

### **General information**

This Warranty Manual Supplement contains the supporting documentation required in the compilation of Perkins Warranty Claims. It also includes the process for correct storage of engines. For details of warranty policy, refer to the Warranty Manual.

The Master Warranty Manual Supplement is held by the Warranty Manager, Perkins Engines Ltd

The electronic copies as posted to the Perkins Secured Internet web site and to the Perkins Intranet site are controlled by the designated web master.

The Warranty Manual Supplement issue status and last revision date are identified at the bottom of each page. This manual supersedes all previous versions.

If the Warranty Manual Supplement is copied, then it is the copier's responsibility to ensure that the latest version is used and that the intended user is given copies of all the warranty related documents.

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# **Definition of Policy 1, 2, or 3 Customers**

## Policy 1

All aftermarket issues are the responsibility of the Perkins distributor network.

These will include:

- Warranty
- Service
- Parts support
- Parts supply channel to Original Equipment Manufacturer (OEM) via Perkins distributor
- Literature

### Policy 2

#### Warranty

Original Equipment Manufacturer (OEM) network can conduct warranty but all parts to be purchased via local Perkins distributor.

Claims to be submitted to Perkins via local Perkins distributor.

Credits passed to OEM claimant from Perkins via Perkins distributor.

Claims will be pre-agreed with Perkins or at retail pricing.

#### Service

Tooling must be in place at OEM outlet and include both standard and special Perkins tools.

Perkins distributors to keep OEM distributor informed of contents of service bulletins, etc.

Training must be completed by the OEM for its dealer network.

Perkins agreed to make training courses available at a mutually agreed location and cost.

#### Literature

Literature to be purchased from Perkins distributor.

#### Policy 3

This is for Original Equipment Manufacturers (OEM's) who control their own aftermarket business and do not rely on the Perkins distributor network for support.

The policy is universal and will cover all or specifically defined territories.

#### Warranty

Perkins standard repair times to be maintained.

OEM to manage own warranty system which will include:

- documentation
- record keeping
- audit procedures
- financial support
- Dedicated administrator
- Agreed warranty rates between Perkins and OEM.

OEM to be 'auditable' by Perkins, see 'Warranty Audit' in the Warranty Manual Supplement.

Parts pricing for warranty (including importation and handling charges).

Repairs conducted outside of policy 3 agreement, ie via a Perkins distributor are on straight commercial terms, the OEM should then claim from Perkins.

Components covered by warranty to be determined at outset (including proprietary items, fitted by Perkins but serviced by the supplier).

Perkins to provide warranty manual

Perkins - OEM interface to be defined.

#### Service

Job cards to be maintained by OEM.

OEM network to provide field service capability.

OEM network to hold appropriate standard and special tooling at own cost.

OEM network service facilities to meet Perkins service standards.

Perkins to train OEM at cost to be agreed between OEM and Perkins.

OEM will be responsible for training own network.

Perkins to provide training as appropriate at a cost to OEM (training should be ongoing and on a train-the-trainer basis).

#### Literature

To be supplied to OEM network in all Policy 3 territories by OEM at own cost and under own brand:

- Service bulletins
- Service manuals
- Update / procedural changes
- Specification changes

Perkins to inform OEM of need for above.

#### Parts

Long / short and re manufactured engines:

OEM will take full responsibility for all parts requirements.

Perkins parts will be used exclusively.

OEM will only sell Perkins parts for their own products and not for other applications.

OEM will have access to Perkins Parts listings but only for own parts requirements.

OEM should use own parts number system - not Perkins system.

All parts to be permanently and clearly labelled as OEM product - re-boxing is preferred.

OEM to maintain adequate stocking of parts at own and OEM dealer locations.

OEM to manage own parts logistics including suitable VOR system.

Dedicated personnel to run parts business within Original Equipment Manufacturer (OEM).

Parts warranty claims process to be created by Original Equipment Manufacturer (OEM).

Market place pricing issues to be responsibility of Original Equipment Manufacturer (OEM).

#### General

Perkins to provide support to OEM upon request:

- Joint visits
  - Advised programme of action (no Perkins liability inferred).

### **List of Policy 3 Customers**

Manufacturer	Type of Equipment	Country of Build	Territories in which Policy 3 Operate	
Agco	Agricultural and	International	All	
	industrial equipment			
Argo	Tractors	Italy	All	
Bobcat	Skidsteer Loaders	USA	All	
Caterpillar	All	International	All	
Daedong	Tractors	Korea		
E.Van Wingen	Generating sets	Belgium		
FG Wilson	Generating sets	UK	All	
JCB	Earthmoving	UK	All equipment	
Lindner	Tractors	Austria	Europe	
Manitou	Fork lift trucks	France	All but North America (including Porthos	
			and Termit; excluding Manireach)	
Shinko Engineering	Generating Sets	Japan		
	(4000 series only)			
Terex	Industrial	UK	All	
Volvo Penta	Marine	Sweden	All	

# **Warranty on New Engines**

## Product Group 1 - Constant or Variable Speed

This warranty applies to:

Electric Power (EP) engines Prime use only

Phaser / 1000 Series New 1000 Series 400 Series 1100 Series 1300 Edi Series 1600 Series 2000 Series 2200 Series 2300 Series 2500 Series 2800 Series 4000 Series diesel and spark ignited engines

Variable speed engines

1100A Series

#### **Warranty Duration**

Commencing on the date of delivery of new engines to the first user, the duration of the engine warranty shall be for a period of 12 months.

#### **Major Components**

The following major components shall be covered for 24 months from date of delivery of the engine to the first user, without hours limitation: cylinder block casting, cylinder head casting, crankshaft (excluding bearings), camshaft and connecting rods.

#### **Low Usage Warranty**

In cases where the total use of engines is restricted to 500 hours or less per annum, the engine warranty will be extended into a second year and shall last until the end of the second year or until total use reaches 1000 hours, whichever is the first to occur.

## Product Group 2 - Constant or Variable Speed

# This warranty applies to: Variable speed engines

400 Series 800 Series 854 Series 1100 Series 1200 Series

## Constant speed engines (Standby only)

400 Series 1100 Series 1200 Series

## **Duration**

Commencing on the date of delivery of new engines to the first user, (i) the duration of the engine warranty shall be for a period of up to 24 months or for a number of warranted hours of operation (detailed below), which ever expires first, and (ii) in cases where the total use of the engine exceeds the number of warranted hours within the first 12 month period, the engine warranty will expire at the end of the first year.

- 400 Series engines are warranted for 2000 hours
- 800 Series, 1100 Series, 854 Series & 1200 Series are warranted for 3000 hours.

## **Major Components**

The following major components will be covered for 36 months from date of delivery of the engine to the first user, without hours limitation: cylinder block casting, cylinder head casting, crankshaft (excluding bearings), camshaft and connecting rods.

### **Low Usage Warranty**

In cases where the total use of engines is restricted to 500 hours or less per annum, the engine warranty will be extended into a third year and shall last until the end of the third year or until total use reaches 1500 hours, whichever is the first to occur.

## **Emissions Regulatory Countries**

New engine warranty for the 1200 series & 854 series is only offered in the below territories

Japan	Austria	Bulgaria	Belgium	Cyprus	Czech Republic
France	Germany	Greece	Hungary	Ireland	Italy
Malta	Netherlands	Poland	Portugal	Romania	Slovakia
Israel	Sweden	Croatia	United Kingdom	Turkey	Norway
Denmark	Estonia	Finland	Latvia	Lithuania	Luxembourg
Slovenia	Spain	Switzerland	Iceland	Lichtenstein	North America

<sup>\*</sup>For specific customers additional warranty support will be provided based on meeting Tier IV requirements in countries not listed.

## **Proprietary Equipment Warranty**

The normal warranty process covers all proprietary equipment sourced and fitted by Perkins prior to dispatch of the engine, other than the Fuel Injection Pump (FIP).

#### Fuel injection pump warranty process

The Fuel injection pump (FIP) will be serviced and warranted through the FIP Supplier's own Service organization.

The Perkins distributor must remove the suspect FIP and take it for inspection to the nearest FIP Supplier's agent and advise the agent that the FIP is within warranty. If after examination by the FIP supplier's agent, liability for repair is accepted, the FIP agent will complete the repair and issue a 'free of charge' invoice.

If the FIP Supplier's agent does not accept warranty, all costs associated with the investigation, removal, repair & replacement of the FIP will have to be settled commercially between the Perkins Distributor and the product owner.

If the FIP Supplier's agent does accept warranty, Perkins will accept reasonable investigative cost & FIP removal / replacement costs related to this repair (as defined in the Repair Time Schedule).

The above process is applicable to all FIP's on Perkins engines except:

- Bosch VP30 Fuel Injection Pump (as fitted to 1100 Series electronic engines)
- Zexel Fuel Injection Pump (as fitted to 400 Series engines)
- CAT CR200 Fuel Injection pump (as fitted to 1100 Series electronic engines).
- Common rail high pressure fuel injection pump (as fitted to 1200 Series electronic engines)
- Common rail high pressure fuel injection pump (as fitted to 854 Series electronic engines)

The Bosch VP30 Fuel Injection Pump is not serviceable. In instances where the published diagnostic processes suggest the VP 30 injection pump is suspect, the VP 30 should be replaced with a new pump and the suspect part is to be returned to the Parts Return Centre in Peterborough. The VP 30 pump must be drained of all fuel, properly sealed and packaged for transport & copies of the Warranty Claim and the EST report must be included with the pump upon return.

The Zexel Fuel Injection Pump is not serviceable. In instances where the published diagnostic processes suggest the Zexel injection pump is suspect, the Zexel should be replaced with a new pump and the suspect part should be held at the Distributor as per normal warranty parts retention process.

The CAT CR200 Fuel Injection Pump is not serviceable, with the exception of the Transfer pump and the inlet connection, as detailed in the service literature. In instances where the published diagnostic processes suggest the CR200 injection pump is suspect, the CR200 should be replaced with a new pump and the suspect part is to be returned to the Parts Return Centre in Peterborough. The CR200 pump must be drained of all fuel, properly sealed and packaged for transport & copies of the Warranty Claim and the EST report must be included with the pump upon return.

The common rail high pressure fuel pump fitted on the 1200 series & 854 series is not serviceable. In instances where the published diagnostic processes suggest the high pressure pump is suspect, the pump should be replaced with a new pump and the suspect part is to be returned to the Parts Return Centre in Peterborough. The pump must be drained of all fuel, properly sealed and packaged for transport & copies of the Warranty Claim and the EST report must be included with the pump upon return.

# **Operational Rules**

Perkins expects distributors to give absolute priority to Warranty work over any other types of business.

Distributor / Dealer must start investigation on site (if necessary) within 24 hours of initial contact, an order number is **not** required for initial investigation work.

If, after investigation, the problem is not considered warrantable, the customer is issued with a Warranty Rejection Report Form (PF8459). The Distributor / Dealer is to request payment for investigation from the customer. All reasonable efforts must be made to recover the cost of investigation, but in cases where the customer refuses to pay, Perkins will accept reasonable costs of the investigation only. A copy of the Warranty Rejection Report may be requested to support any claim.the problem is considered warrantable and the use of either crankshaft or cylinder block is required, it is recommended that you contact your nominated Service Executive for prior approval.

Perkins will endeavour to process claims within 14 days of receipt.

#### Submission of Claims

Warranty claims must be submitted as soon as possible after the repair and must be received by Perkins Warranty Department no later than 45 days after the failure occurred or in accordance with the period laid down in the terms of individual contracts, should they differ.

All claims must be submitted using the Perkins Warranty System (PWS). Exceptionally, where prior agreement has been made, an electronic format such as .txt will be accepted. This must be submitted to Perkins via the agreed electronic medium.

#### Rates

#### Labour

Labour reimbursement rates can be reviewed annually at the request of the distributor. Perkins will accept an hourly labour rate equal to that charged to the most highly discounted retail customer.

Labour costs will be in line with the Repair Time Schedule. Reasonable costs for investigation and testing will be accepted, where necessary.

#### Parts

Parts reimbursement will be at cost + 'On the shelf costs' (% negotiable) + 'Mark-up' (% fixed).

Mark-up is fixed at 20% for all products except 2300, 2800 and 3000 Series engines where +15% applies and 4000 Series where +10% applies. Perkins will not accept any VOR charges on fast moving items. Where Perkins does accept after prior agreement for slow moving items no handling will be considered.

If approval has been given for engine change (complete, long or short) under warranty, 'Mark-up' shall be +8%. This does not apply if the engine has been supplied FOC by Perkins.

For all Stafford built product 1300, 2300, 2500, 2800, 4000 Series, where approval has been given for a replacement engine, short and long engine, 0% applies.

Where parts or long / short engines are supplied FOC by Perkins, these are not eligible for any handling charges therefore 0% 'On shelf costs' applies.

#### **Travel**

Travelling time will be reimbursed at the agreed labour rate and vehicle mileage allowance as per individual distributor agreements. Perkins will consider travel up to a maximum of 300 miles in total. Distributors will be expected to carry parts to repair on site, where appropriate, ensuring only one journey is necessary. It is appreciated that in some circumstances more than one journey will be required; this will be considered providing adequate justification is given.

## **Shelf life Warranty**

#### The following statement covers all Perkins engines.

Perkins would prefer that storage over 12 months from the date of despatch is not encouraged and where it is unavoidable Perkins recommends that engines are checked and serviced in accordance with the storage procedures.

Perkins reserves the right to refuse claims arising from storage related influences, such as poor storage practice or long shelf-life (over 12 months) for failure to fuel injection equipment, seals, hoses, belts, water pumps, compressors, radiators and electrical items.

## For engines despatched before 1st September 2006

The standard warranty policy allows for a maximum shelf life of 36 months before sale to the first end-user. The new product warranty period shall start no later than 36 months from the despatch date from the Perkins factory. This is the date as shown on the Perkins on-line PTMI system.

## For engines despatched after 1st September 2006 and before 1st April 2011

The standard warranty policy allows for a maximum shelf life of 24 months before sale to the first end-user. The new product warranty period shall start no later than 24 months from the despatch date from the Perkins factory. This is the date as shown on the Perkins on-line PTMI system.

## For engines despatched after 1st April 2011

The standard warranty policy allows for a maximum shelf life of 48 months before sale to the first end-user. The new product warranty period shall start no later than 48 months from the despatch date from the Perkins factory. This is the date as shown on the Perkins on-line PTMI system.

Engines despatched after 1st April 2011 and are not put into service within 48 months will no longer be considered for warranty.

## **Storage Procedure**

## **Protection of Engines and Parts**

All engines and parts are carefully sealed and protected against rust or corrosion before dispatch and are crated, cradled or packed in accordance with accepted commercial standards.

It is the responsibility of the Equipment Manufacturer or Engine Distributor to carefully inspect for damage and/ or shortages and to maintain the properly sealed condition and to provide suitable storage until the equipment, engine or part is delivered to the first user.

## **Engines Installed in Parked / Stationary Equipment**

At the end of each and every three month storage period:

Carefully check all drive belts, paying particular attention to the point where the straight run of the belt starts to bend around the pulley. Check the vee groove in the pulley for corrosion.

Check the level of coolant (must be anti-freeze inhibited).

Check the level of oil in the sump on the dipstick

Note: The lubricating oil and fully primed filter must be replaced with oil to the listed specification every twelve months, even though the oil has not been used. Oil left standing in an engine will oxidise and can be contaminated by condensation within the crankcase.

Turn the engine on the starter motor until oil pressure is built up. (Where practicable, this should initially be done by hand to prevent tearing the seals). Then run the engine at a fast idling speed (suggest 1000/1500 rev/min) until normal operating temperature is registered.

- Check the oil pressure.
- Check for oil, fuel and coolant leaks.

## Floor Stock Engines

All floor stock engines should be stored under cover in dry factory conditions and not subjected to extreme variations in temperature and humidity (failure to do so may render warranty void).

At the end of each and every three month storage period:

For 1100 Series three and four cylinder engines fitted with a fuel priming pump; check that the fuel priming pump is operating correctly. Follow the instructions in Perkins Service Bulletin 1100 Series number 82.

At the end of each and every six month storage period:

Carefully check all drive belts, paying particular attention to the point where the straight run of the belt starts to bend around the pulley. Check the vee groove in the pulley for corrosion.

Remove the rocker cover and examine valve caps, rocker shaft, etc, for signs of corrosion. Spray with preservative oil (see below) before replacing cover.

Remove atomisers (Caution: for 1100 Series engines, DO NOT remove the injectors, remove instead the glow plugs) and with the pistons at BDC, spray up to 20 cc of preservative oil (see below) around each cylinder. For 100/400 Series engines, only spray up to 3 cc of preservative oil around each cylinder. DO NOT allow oil to collect in the swirl chambers of DI engine pistons.

**Note:** We recommend rust preventative oils to the specification PX-4, Defence Standard 80-34/1. Crodafluid P11 or Larnal (lanolin based oils) are applicable.

Rotate the crankshaft by hand in order to circulate deposits over cylinder bore surfaces. If a belt driven water pump is fitted, rotate it by hand to ensure that the seal is free.

Check that existing preservation of all external surfaces is sound and complete, paying particular attention to crankshaft lip seal surfaces, re-preserve as necessary.

Ensure that all open aperture protective covers (air intake, exhaust manifolds, etc) are securely positioned. Distributors are reminded of their responsibility to make their customers aware of this storage procedure, to ensure that any engine subsequently subjected to long storage is protected in accordance with Perkins recommendations.

## **Engine Change in Warranty**

Engines must not be changed without the authority of the Operating Area Service Department.

In general terms, such permission is restricted to failures that:

- Are of a major nature
- Occur during early life

OR

Would cost more to repair than the price of a replacement engine in any of these cases,
 OEMs/Distributors MUST approach the Perkins Operating Area Service Department for advice before proceeding.

The replacement Engine List and Serial number must be provided in the warranty claim submitted for the original engine failure.

When an electronically controlled engine is replaced the ECM unit must be returned to Perkins with the failed engine.

## **Transportation Damage or Shortage / Insurance**

Cases may occasionally arise where deliveries of engines or parts arrive in a damaged condition or with shortages. Claims resulting from such damage or shortages are NOT regular Warranty claims, but require special handling. Thus Warranty Claim Forms must NOT be used.

When the consignee accepts the delivery, he acknowledges that such delivery has been received in apparent good order and that Perkins bears no responsibility for damages unless specifically agreed in writing beforehand.

When apparent damage or shortage is observed upon receipt of an engine or parts, the consignee should endorse the Carrier Delivery Note to indicate receipt of an incomplete or damaged consignment. Claims for damages / shortage should be made by the consignee on the carrier.

Shortages or transit damages should be reported in writing, within three days, to the appropriate Sales or Quality Department.

Claims in respect of engines shipped to overseas locations from the UK should be registered by the consignee directly with the appropriate insurance company, i.e. engines may have been purchased on terms under which Perkins will have arranged the insurance cover, in which case the Perkins invoice will indicate the address of the insurance agency. In other instances, the consignee may have arranged his own insurance, in which case claims will be submitted to that insurance company. In all instances of insurance claims, it is important to note that the insurance company would require the claimant to have notified the carrier in writing, holding that carrier responsible for the cost of repair.

Non-conformity to specific orders must be reported in writing within seven days of receipt of goods. Such claims received later than this will not be entertained.

Damage to, or shortage of parts supplied by PPDC must be reported to Irlam, Manchester NOT Peterborough.

# **Original Equipment Manufacturer (OEM) Agreements**

Original Equipment Manufacturer (OEM) agreements should be as 'Warranty on New Engines', with the exception of:

#### **Parts**

Parts price for warranty repair will be stated in the contract. It is recommended that the price given will be Perkins selling price to the Original Equipment Manufacturer (OEM) + any agreed handling allowance.

## Administration (for Policy 3 OEMs)

The named Original Equipment Manufacturer (OEM) Service Department will deal direct with Perkins and there will be no direct communication between Perkins and the named Original Equipment Manufacturer (OEM) distributors.

In order to simplify Warranty Administration and minimise delays, Perkins standard electronic Warranty Claim Format should be used. In exceptional circumstances, the Original Equipment Manufacturer (OEM) may elect to use his own electronic Warranty Claim Format providing that the following KEY information is provided:

- Claim Reference
- Engine Number (complete)
- Engine Life
- Operating Area
- Date in Service
- Date Failed
- Outline of Component Failure
- Material Costs
- Labour Costs
- Sundry Costs (includes any travel time and miles)
- Repair time
- Part number causing failure
- Defect code
- Component code

Claims will be audited during an agreed periodic visit by Perkins.

#### **Amendments**

Any amendments to the stated warranty procedures shall be binding on Perkins and the named Original Equipment Manufacturer (OEM) if agreed in writing. A copy of any agreement must be forwarded to the Warranty Administration Department, Peterborough.

### **Rectification Programmes**

A Rectification Programme is a service programme or Service Letter relating to any product which can only be initiated if agreed by Perkins.

A Service Letter is defined as a co-ordinated project authorised by Perkins for carrying out emergency action to rectify a defined fault occurring in engines supplied to customers.

Service Letter action is applicable where the scale or nature of the concern could result in:

- injury to people
- serious deterioration in customer relations
- significant adverse impact on market strategy
- where the failure costs in warranty reach an unacceptable level and are in excess of campaign costs