



Espar Products, Inc.  
Tel: (905) 670-0960  
(800) 387-4800  
Fax: (905) 670-0728  
[www.espar.com](http://www.espar.com)

**Refer to sections on Airtronic L-B5 12 volt for petrol engines.**

# Table of Contents

## Policies

Warranty Policy Overview .....	3
Warranty Period.....	4
What IS and IS NOT Covered by the Warranty.....	5
Heater Identification Plate .....	6
Warranty Registration.....	7

## Procedures

Procedure Prior to Starting Warranty Work.....	8
Procedure for Performing Warranty Work.....	9
Procedure for Submitting Warranty Claims.....	10
Espar's Internal Procedure for Processing Warranty Claims.....	12
Warranty Notice – On Hold / Adjustment / Rejection .....	13
Warranty Authorization (WA).....	13
Warranty Evaluation (WE).....	14
“Always Repair Heater” Policy / Procedure for Submitting a Heater to Espar for Repair (RR).....	15
New, Defective Parts or Heaters / Procedure for Returning Defective Goods (RA).....	16

## Flat Rate Labour Guide

<i>AIRTRONIC 2 / 4</i> .....	18
<i>B1LC compact</i> .....	19
<i>B / D3LC compact</i> .....	20
<i>B / D5LC</i> .....	21
<i>AIRTRONIC 5</i> .....	22
<i>D8LC</i> .....	23
<i>HYDRONIC 4 / 5 SC with integrated fuel metering pump</i> .....	24
<i>HYDRONIC 4 / 5 SC with external fuel metering pump</i> .....	25
<i>HYDRONIC 5 S</i> .....	26
<i>HYDRONIC 5 Z</i> .....	27
<i>HYDRONIC 10</i> .....	28
<i>HYDRONIC 16 / 24 / 30 / 35</i> .....	29

## Tools and Equipment

Computer Diagnostic Tools .....	30
---------------------------------	----

## Appendices

Appendix A: The Espar Limited Warranty .....	32
Appendix B: Sample Warranty Tag .....	33
Appendix C: Sample Customs Declaration Form (U.S. only).....	34
Appendix D: Sample Espar Shipping Label .....	35
Appendix E: “Defective Canadian Goods Returned” Label (U.S. only).....	36
Appendix F: Warranty Notice – On Hold / Rejection / Adjustment.....	37

## Warranty Policy Overview

This Espar Warranty Manual (Revision 2), and all policies and procedures within it, supercedes all previous warranty manual revisions. It will remain valid until a new manual is released, or until further notice. All current established dealer labour rates paid out are frozen until 2007. Any requests for increases after September 1, 2006 must be made in writing and forwarded to the Warranty Supervisor. Approval or denial will be decided upon review with the decision communicated back to the dealer.

While the warranty is applicable to the end-user, it is administered and performed only through the Espar network of trained dealers and distributors.

To this end, Espar will follow the procedures outlined in this manual in the processing and administration of warranty claims.

For specific information please refer to the Espar Limited Warranty section as outlined in Appendix A of this manual.

## Warranty Period

The warranty period of a heater is specified in years, measured from the date of installation, or for the heater operation time, measured in hours, whichever is reached first. (Please see "What is Covered by the Warranty; What is Not Covered by the Warranty" section on page 5 of this manual). If the installation date is not made known to Espar by registering the heater within thirty (30) days of installation, or by providing proof of installation date at time of warranty claim (i.e. installation invoice), the warranty period will begin on the date of shipment from Espar's North American warehouse. Heaters and parts must be installed within one (1) year of purchase date to be eligible for warranty.

All replacement parts are warranted to be free from defects for ninety (90) days from the date of sale or the remainder of the original warranty on the heater; whichever is greater.

Special Tools (i.e. ISO Adapter, Fault Code Retrieval Device, EDiTH Adapters, etc.) are warranted to be free from defects for twelve (12) months from the date of sale.

The following warranty periods are:

### Air Heaters

Heater Model	Standard Warranty
<i>AIRTRONIC 2</i>	2 years or 2000 hours*
<i>AIRTRONIC 4</i>	2 years or 2000 hours*
<i>AIRTRONIC 5</i>	2 years or 2000 hours*
<i>B1LC compact</i>	2 years or 2000 hours*
<i>B / D3LC compact</i>	2 years or 2000 hours*
<i>B / D5LC</i>	1 year or 1000 hours*
<i>D8LC</i>	1 year or 1000 hours*

\* = whichever is reached first

### Coolant Heaters

Heater Model	Standard Warranty
<i>HYDRONIC 4</i>	2 years or 2000 hours*
<i>HYDRONIC 5</i>	2 years or 2000 hours*
<i>B / D5W</i>	2 years or 2000 hours*
<i>HYDRONIC 10</i>	1 year or 1000 hours*
<i>HYDRONIC 16 / 24 / 30 / 35</i>	1 year or 1000 hours*

\* = whichever is reached first

# What IS and IS NOT Covered by the Warranty

The purpose of the Espar Warranty is to provide the end user (customer) of Espar heaters with protection from defects, which are within the ability of Espar or its parent company, J. Eberspächer, to control.

## A. Items covered include:

### PARTS

1. Timers, thermostats, mini controllers or other electronic temperature control products provided by Espar
2. Electronic control units (ECU's)
3. Glow pins
4. Fuel metering pumps
5. Heat exchangers and / or combustion chambers (burner)
6. Air blowers
7. Coolant pumps
8. O-rings, gaskets, seals and rivets
9. Wire Harnesses (with prior authorization and proof that it is a harness provided by Espar).

### SERVICE

1. Shipping costs associated with the authorized return of warranted parts from the Espar Distributor to Espar (only shipments specifically requested by Espar).
2. To receive travel time to repair heaters installed on boats and off-highway heavy equipment, the travel section must be completed on the warranty claim for consideration of payment. Please note that Maximum Limits do apply.

## B. Items not covered include but may not necessarily be limited to:

### PARTS

1. Heaters no longer covered within terms of warranty;
2. Wear and tear parts, including:
  - Glow plugs
  - Clamps, clips, brackets
  - Batteries
  - Coolant
  - Glow pin or Glow plug screens
  - Fuel system components (i.e. Fuel pickup pipe, fuel line, filters, etc.)
  - Fuses
  - Connectors, terminals and screws
  - Lamp bulbs
  - Intake and exhaust tubing
  - Air ducting
3. Parts that malfunction due to improper installation, which may result from:
  - Inadequate air or coolant flow;
  - Inadequate or restricted fuel flow;
  - Inadequate voltage due to improper wiring upon installation;
  - Inadequate protection from shock or vibration;
  - Inadequate protection from road spray or weather conditions.
4. Heaters or components that have been opened, (for example: control units or pulse generators that have been opened and fuel metering pumps with a broken seal) tampered with or modified by parties other than Espar, or have had non-standard parts or parts not approved by Espar included in the installation.
5. Diagnosis or repairs when cause is due to electrical system problems outside the heater, or due to excessive engine debris or empty fuel tanks or poor quality fuel.

### SERVICE

1. Travel time by dealers/distributors traveling within their assigned territories except as noted in A: SERVICE #2 above.
2. Shipping costs associated with the unauthorized return of warranted parts from the Espar Distributor to Espar Products.
3. Espar will not pay for return shipping cost to the dealer where parts are deemed acceptable after testing.

**Normal periodic heater maintenance (as outlined in each heater manual) shall be the responsibility of the owner of the heater. A general guideline is to run the heater once ( 1 ) per month for fifteen ( 15 ) minutes as well as in the off-season.**

# Heater Identification Plate

The Heater Identification Plate provides all required heater information, such as Heater Model Type, Part Number and Serial Number. This information must be included with every warranty claim, so be sure to record it before any warranty repair work is completed.

ITEM 1: AIRTRONIC, HYDRONIC or three or four digit Heater Model Name (ie. D5LC).

If three or four digit name, the following explanation may be helpful:

- |  |  |
|--|--|
| First digit (indicates fuel type):             | Alpha (D = diesel, B = gasoline)           |
| Second digit (indicates kilowatt heat output): | Numeric (5 = 5 kilowatt, etc.)             |
| Third digit (indicates type of heater):        | Alpha (L = air heater, W = coolant heater) |
| Fourth digit (further designation):            | Alpha (C = comfort)                        |

ITEM 2: Further heater name designation or six to eight number Heater Model Number (ie. 25 1861)

ITEM 3: Heater Model Number or Part Number (i.e. 25 2069)

ITEM 4: Four to eight digit alpha-numeric Serial Number (i.e.1234567AL)

The diagram shows a rectangular identification plate with rounded corners. At the top, it reads "J. EBERSPACHER ESSLINGEN" and "MADE IN GERMANY". Below this, there are several rows of input fields with labels to their left and arrows pointing to them from the right:

- Heizgerät Typ (Model Name (Item 1))
- Ausführung (Model Name Continued or Model Number (Item 2))
- Ausfuhr. Nr. (Model Number or Part Number (Item 3))
- Fabrik Nr. (Serial Number (Item 4))
- Prufzeichen (Build Specification)
- Brennstoff (Type of Fuel)
- Elektr. Werte (Electrical Power Consumption)
- Wärmestrom (Maximum Heat Output)
- Betriebsüberdruck (Operating Pressure)

Below these fields is a large empty rectangular box. Underneath that is another empty rectangular box. Below that is a small box labeled "Erste Inbetriebnahme". At the bottom left is a logo consisting of three slanted bars. At the bottom right are three small boxes labeled "06", "07", and "08", with an arrow pointing to them from the right labeled "Build Reference".

## Warranty Registration

A blue warranty registration notification is shipped with every heater. Please note there are several important reasons why the warranty should be registered.

If a warranty registration is not received by Espar, the heater warranty period begins on the date the heater is shipped from Espar's North American warehouse. When the warranty is properly registered, Espar can identify the date on which the heater was installed and / or put into service and therefore begin the heater warranty period on that date. **This effectively extends the warranty period of the heater to the maximum time available.**

Registering the warranty also serves the purpose of identifying the purchaser of the heater since the warranty is non-transferable.

It also identifies the installing dealer so that customers can be serviced at locations other than where they purchased the heater, if required and if necessary, any installation related problems could be brought to the attention of the installer.

Espar recommends all dealers / distributors to register their customers warranty within 30 days of installation by completing and submitting their form via the internet from Espar's website ([www.espar.com](http://www.espar.com)). Click on the "Warranty" link, then on the "Warranty Registration Coupon" link to access the warranty registration.

Again, it is in the customer's best interest that the warranty be registered to receive the full warranty period allotted for their particular heater.

### **IMPORTANT NOTE:**

**If the warranty registration is not completed and received by Espar within thirty (30) days of installation the heater warranty period begins on the date the heater is shipped from Espar's warehouse, unless other information is provided to Espar upon request.**

## Procedure Prior to Starting Warranty Work

The purpose of the Espar warranty is to ensure that the end-user (customer) of Espar products is satisfied with the quality of their purchase. In order to provide customer satisfaction, Espar stands behind its products as they leave Espar's control.

As a member of the Espar distribution organization, you are expected to stand behind your work. This includes properly specifying and installing heaters and instructing your customers on the proper operation and maintenance of the heater and all related components or accessories. All heater technical manuals are available for download at Espar's website ([www.espar.com](http://www.espar.com)).

A. Before starting any warranty repairs on the heater, please check (as appropriate) the following:

1. Electrical System
  - a) Are connections tight and free of corrosion?
  - b) Has proper gauge wiring been used for the length and amperage requirements for that wiring?
  - c) Have any fuses or circuit breakers been activated?
  - d) Is power taken directly from the batteries and ground to the batteries?
2. Fuel System
  - a) Have proper diameter fuel lines been used?
  - b) Have proper length fuel lines been used?
  - c) Has a proper connection to the fuel supply been made?
  - d) Is the fuel flowing or has it gelled?
  - e) Are there restrictions in the fuel line?
  - f) Is the fuel metering pump properly aligned?
  - g) Is the fuel filter clogged?
  - h) Has an Espar fuel pick-up pipe been used, and is it the proper length and diameter?
3. Coolant flow or Air Flow System
  - a) Are there any obstructions in the system?
  - b) Is the heater system too large (or small) for the application?
  - c) Has proper coolant hose size or ducting size been used?
4. Total operating hours to-date (with KD2000 or EDiTH diagnostics).



## Procedure for Performing Warranty Work

As a member of the Espar distribution organization you are trained in the installation, troubleshooting and repair of Espar heaters and systems and you have all of the necessary tools required to properly diagnose heater functions.

Technical publications such as Technical Descriptions, Troubleshooting guides and Parts manuals are available by downloading directly from Espar's website ([www.espar.com](http://www.espar.com)). Technical circulars are issued periodically from Espar's Technical Department. It is important to maintain these publications and refer to them while working on a heater. Special tools and test equipment are available for some heaters (please refer to the Tools and Equipment section). If you have any questions, please contact Espar's Technical Department.

Once you have examined the heater for system or installation problems, as set forth in the preceding section, and have determined that warranty work must be performed, follow the technical publications and use your training and experience to correct the cause of the problem.

### **IMPORTANT NOTE:**

**Always ensure that the root cause of the problem is corrected, rather than simply correcting the symptom(s) of the problem. For example: if a heater has overheated several consecutive times and has been locked out (F15), do not simply reset the heater with the diagnostic unit. Locate the source of the overheat problem and correct it.**

Any part replaced under warranty must be tested to confirm that it is defective before it is claimed. Parts that should be tested are, but are not limited to:

- Glow Pins
- Control Units
- Fuel Metering Pumps
- Temperature, Flame and Overheat Sensors
- Combustion Air Blowers
- Coolant Pumps
- Thermostats and Timers
- Mini Controllers
- Wire Harnesses

## Procedure for Submitting Warranty Claims

### **IMPORTANT NOTE:**

**Espar administers warranty credit through its authorized service distributors network. Individual authorized dealers should submit warranty claim forms on-line and will receive warranty credits through their main service branch. To utilize the on-line procedure, Espar will issue a USER ID and PASSWORD to the Main Service Branch (who will then distribute it to their authorized sub-dealers).**

After the warranty work has been performed and the heater is operating properly and it has been determined that the problems were truly warranty problems and not due to improper application specification, installation or operation; the procedure is as follows:

1. Affix an Espar Warranty Tag to all claimed parts. Fill out ALL the information indicated on the tag: Dealer Stamp, Dealer Claim Number, Espar Part Number, Part Description, Heater Name, Heater Part Number, Serial Number, Description of Defect and WE#. Each part must be held for thirty (30) days AFTER the claim has been made. Espar reserves the right to inspect any or all parts, upon request. If any of these parts are not requested back by Espar after the thirty (30) day period, the part may be disposed of.

Supplies of Warranty Tags (Appendix D) are supplied by Espar upon request and are distributed through the main Espar authorized service branch.

### **IMPORTANT NOTE:**

**Should Espar request parts back, a WE# will be issued to the dealer. It is important to ship the required items ONLY, within thirty (30) days by UPS GROUND SHIPMENT ONLY. Rejection of a warranty claim will result from the following: Failure to return a part when requested by Espar; submitting untagged parts; omit any or all the required information on the tag; or failure to identify the shipment with the applicable WE#. There will be no exceptions. It is important to receive all requested parts back since a recurring pattern of problems may be discovered as warranty claims are reviewed either at Espar or its parent company, Eberspaecher. If this occurs, it is imperative that defective parts are available for testing and evaluation.**

2. A warranty claim **must be** submitted within thirty (30) days of the date of repair.

### **IMPORTANT NOTE:**

**If a new part is determined to be defective within ninety (90) days AFTER INSTALLATION a warranty claim should be filed as usual and the description of the problem should clearly state "90 day warranty." This coverage will even apply should the heater be out of warranty, however, no labour will apply in this case.**

Please review the specific procedure below to file all warranty claims.

- A. Go to Espar's website ([www.espar.com](http://www.espar.com)) and click the "Warranty" link, then the "Warranty Claim" link. Only authorized Espar dealers can submit warranty claims through the secured area of the Espar website.
- B. Complete all information, including: Claimant Information, Espar MSD or Direct Dealer, Claim Number, Date, WA# (Refer to WA# section on page 13), Heater Model Number, Heater Model Part Number (ie. 25 1976), Heater Serial Number (same as Fabrik No.) including all alphanumeric digits (ie. 123456AE), Voltage (12V or 24V), Repair Date, Application Type, Model Number, Serial Number, Installation Date and Registered Owner Information (including name, address, city, province / state and postal / zip code).

**IMPORTANT NOTE:**

**Warranty claims that are inaccurate (information does not correspond to the information received for the warranty registration or sales records at Espar) will not be processed.**

- C. Describe the problem and repair in detail in the "Description of Problem" section; this includes all fault codes (**which are mandatory**), testing procedures and values. Please note: the description of the troubleshooting should correspond to the relevant fault codes.
- D. Each claim automatically receives thirty (30) minutes for troubleshooting Operation Code A, and thirty (30) minutes for heater function testing, Operation Code D or E.
- E. Complete the "Parts Required for Repair" section; indicate the Quantity, Espar Part Number and Description. Do NOT include any parts replaced for normal heater maintenance. Complete the applicable Operation Code and Labour Time (as per the applicable Flat Rate Labour Guide).

*Example: The AIRTRONIC D2 appears to start normally but then it shuts down and attempts to restart. The diagnostic fault codes in memory are: AF 64; F1 64; F2 64 and F3 64. The flame sensor was removed, tested and found to be defective (open circuit). The operations performed, according to the Flat Rate Labour Guide were:*

A	Troubleshoot	30 minutes
B230	Replace flame sensor	10 minutes
D	Function test	<u>30 minutes</u>
Total Time =		70 minutes

- F. Indicate the total operating hours to-date (with KD2000 or EDiTH diagnostics).
- G. To receive travel time for repair for heaters installed on boats and off-highway heavy equipment, the travel section must be completed on the warranty claim for consideration of payment. Please note maximum limits do apply.

**IMPORTANT NOTE:**

**Espar must receive the warranty claim within thirty (30) days of the date of heater repair. Claims made more than thirty (30) days from the date of repair will be rejected. There will be no exceptions.**

## Espar's Internal Procedure for Processing Warranty Claims

Espar will make every effort to process warranty claims promptly providing all information is provided as set out in this manual. Thus, Espar is committed to issuing credit for processed warranty claims within thirty (30) days of receiving back the requested parts.

### Warranty Notice – On Hold / Adjustment / Rejection

It is the dealer's responsibility to respond to the warranty notice within ten (10) business days; if there is no response within this time period, Espar will permanently close the claim. **Espar will not re-open once this process has been complete.**

When a warranty claim DOES NOT comply with Espar's existing warranty policy, you will receive notification based upon the following criteria:

**Warranty Claim is ON HOLD:** Extra information is required by Espar to process the warranty claim.

**Adjustments were made to the submitted Warranty Claim:** Labour time / rate requested was incorrect; duplicate labour codes, authorization for excess time, labour or parts were not requested, or installation date was incorrect.

**Rejection of the Warranty Claim:** The heater warranty period has expired; parts returned were tested and found to be not defective; parts claimed were not covered under warranty; inadequate parts return; duplicate warranty claim; vehicle owner is not the original registered owner; requested information not returned within ten (10) business days; or unauthorized WA# used for warranty claim that was not approved for a particular serial number, etc.

Please see Appendix F for the notice form.

### Warranty Authorization (WA)

A warranty authorization number (WA#) will be issued only for claims that are abnormal or outside the normal scope of the warranty manual. Please refer to the Flat Rate Labour Guide for the particular heater in question to see the additional parts that are allowable under certain conditions. These are identified by the shaded areas on the Flat Rate Labour Guide. Please request this WA# PRIOR to submitting any claim by sending an email to Espar's Warranty Administrator for authorization. Should an email be sent, it must include the serial number of the heater, the end user customer name, a detailed description of the problem and tests performed and the main reason for the request. The WA request will be approved or rejected by the Warranty Department at their discretion.

The warranty authorization number (WA#) issued by Espar pertains to one specific instance only and is to be used when submitting the claim on-line. **IT IS NOT A GENERIC NUMBER TO BE USED LIBERALLY** and if used as such will result in immediate warranty claim rejection.

## Warranty Evaluation (WE)

Every claimed part must be tagged and held for thirty (30) days following the submission of a warranty claim. During this time frame Espar may request that a part or heater be returned to Espar for evaluation. In this case the following procedures will apply:

1. When requesting parts and / or heaters back for evaluation, associated with a warranty claim, the Warranty Administrator will issue a Warranty Evaluation (WE) reference number and contact the customer of record (authorized Espar MSD / Direct Dealer) via email. It is the responsibility of the MSD / DD to distribute this number to their sub-dealers. Upon receiving a WE#, all parts corresponding to the given WE# must be returned within thirty (30) days.
2. **All paperwork and packaging** must reference the WE number to avoid rejection. When any product is returned without a WE number there will be a \$50.00 administration charge to your account. **NO EXCEPTIONS WILL BE MADE.**
3. Parts and heaters must be packaged securely to avoid damage in transit.
4. Ship via UPS ground (Air shipments will not be paid for by Espar).
5. All parts and heaters must be marked clearly with a completed warranty tag (see Appendix B). Parts that are not tagged will be returned at your cost (COD). Shipping costs associated with resubmitted parts will be the responsibility of the MSD / DD. Proper documentation must accompany each shipment, which includes:
  - a) Completed Customs forms (U.S. only) and / or packing slip with quantity, Espar part and heater serial numbers clearly marked (see Appendix C).
  - b) Shipping labels marked clearly with Espar reference numbers, where applicable, affixed to outside of package (see Appendix D).
  - c) "Defective Canadian Goods Returned" label (U.S. only) affixed to outside of package (see Appendix E).

Labels and Customs forms are available from Espar and / or all authorized Espar MSD / Dealers.

### Canadian Customers ONLY

Ship to:           Warranty Department  
                      Espar Products, Inc.  
                      6099A Vipond Drive  
                      Mississauga, Ontario  
                      L5T 2B2 CANADA  
                      Espar Reference Number *(in this case it is a WE# that has been assigned to you).*

### U.S. Customers ONLY

Ship to:           Warranty Department  
                      Espar Products, Inc.  
                      60 Industrial Parkway, Suite 730  
                      Cheektowaga, New York  
                      14227 U.S.A.  
                      Espar Reference Number *(in this case it is a WE# that has been assigned to you).*

## “Always Repair Heater” Policy

Espar and Eberspächer have an “Always Repair Heater” policy. In the case that a Main Service Distributor or Dealer has difficulty in diagnosing and repairing a heater they should contact Espar’s Technical Department for further assistance. If after consultation with Espar (and providing that it is within its warranty period) and Espar deems it necessary to have the heater returned, Espar will issue an RR#. This will authorize the heater to be shipped to Espar for repair. A new heater should not be permanently issued to the customer prior to Espar assisting you with the correct diagnosis of the problem with the heater in question.

### Procedure for Submitting a Heater to Espar for Repair Purposes (RR)

1. A request must be made to Espar’s Warranty Supervisor or Technical Department.
2. Espar’s Warranty Supervisor or Technical Department will then issue a “Repair/Rework” (RR) number.
3. The product may then be returned to Espar with the RR number clearly marked on the shipping label and package(s). All costs associated with shipping the heater to Espar will be the responsibility of the dealer. Parts and heaters must be packaged securely to avoid damage in transit. Parts damaged due to this will not be covered under warranty.

Proper documentation must accompany each shipment, which includes:

- Completed Customs forms (U.S. only) and / or packing slip with quantity, Espar part and serial numbers clearly marked (See Appendix C).
  - Shipping labels marked clearly with Espar reference numbers, where applicable, affixed to outside of package (See Appendix D).
  - “Defective Canadian Goods Returned” label (U.S. only) affixed to outside of package (See Appendix E).
4. Upon receipt, the heater will be tested and, if possible, repaired. If the heater cannot be repaired (and it is still under warranty), it will be replaced at Espar’s expense. A replacement heater will be warranted for 90 days or the balance of previous heater’s warranty, whichever is longer.
  5. The repaired heater (or new heater, when applicable) will be returned to the dealer or MSD. Shipping costs (UPS ground) of the return heater to the dealer or MSD will be covered by Espar.
  6. If a heater is returned without an RR number, there will be a \$50.00 administration charge to your account. **NO EXCEPTIONS WILL BE MADE.** In addition, heaters returned with proper authorization will receive the highest priority for repair.

#### Canadian Customers ONLY

Ship to:           Warranty Department  
                      Espar Products, Inc.  
                      6099A Vipond Drive  
                      Mississauga, Ontario  
                      L5T 2B2 CANADA  
                      Espar Reference Number *(in this case it is a RR# that has been assigned to you).*

#### U.S. Customers ONLY

Ship to:           Warranty Department  
                      Espar Products, Inc.  
                      60 Industrial Parkway, Suite 730  
                      Cheektowaga, New York  
                      14227 U.S.A.  
                      Espar Reference Number *(in this case it is a RR# that has been assigned to you).*

## New Defective Parts or Heaters (when they are NOT covered under warranty)

If a new part or heater is determined to be defective by visual inspection, or found to be functionally defective immediately (PRIOR TO INSTALLATION) it should be returned to Espar under a Return Goods Authorization (RA). NEW DEFECTIVE PARTS OR HEATERS CANNOT BE CLAIMED AS WARRANTY.

### Procedure for Returning Defective Goods (RA)

1. A faxed copy of the original invoice or packing slip (with the new, defective part or heater listed on it must be submitted to the attention of Espar's **Customer Service Department**). VERBAL REQUESTS WILL NOT BE ACCEPTED OR PROCESSED.
2. Espar's Customer Service staff will in-turn, fax back a Return Goods Authorization (RA) number.
3. The product may then be returned to Espar with a copy of the Return Goods Authorization (RA) form enclosed.
4. Parts and heaters must be packaged securely to avoid damage in transit.
5. Ship via UPS ground (air shipments will not be paid for by Espar).
6. Proper documentation must accompany each shipment, which includes:
  - Completed Customs form (U.S. only) and / or packing slip with quantity, Espar part and heater serial numbers clearly marked.
  - Shipping labels marked clearly with Espar Reference Number (RA number affixed to outside of package). Refer to Appendix D.
  - Affix a "Defective Canadian Goods Returned" label to the outside of package.

All labels and Customs forms are supplied by Espar and distributed through the authorized Espar service distributor or dealer.

#### Canadian Customers ONLY

Ship to: Warranty Department  
Espar Products, Inc.  
6099A Vipond Drive  
Mississauga, Ontario  
L5T 2B2 CANADA  
Espar Reference Number *(in this case it is a RA# that has been assigned to you)*.

#### U.S. Customers ONLY

Ship to: Warranty Department  
Espar Products, Inc.  
60 Industrial Parkway, Suite 730  
Cheektowaga, New York  
14227 U.S.A.  
Espar Reference Number *(in this case it is a RA# that has been assigned to you)*.

7. Upon receipt, the product will then be inspected and a credit will be processed to the customer of record (MSD / DD), or may be refused if testing concludes the product is functional. If the product has been found to be used (installed) the RA will be rejected, and in turn no warranty claim will be accepted.
8. When any product is returned without an RA number there will be a \$50.00 administration charge to your account. NO EXCEPTIONS WILL BE MADE.

## The Espar Flat Rate Labour Guide

This flat rate labour guide has been developed from the worldwide experience of Espar and Eberspächer dealers and distributors. While some technicians may not meet the times set for each operation on the first few repair jobs, as experience is gained, most jobs will be able to be executed in less time than called for in the guide.

The flat rate labour guide is organized by heater model in order of heat output.

When submitting a warranty claim, it is mandatory to log a detailed description of the repair. The description you have provided should correspond to the fault codes indicated. It is imperative to verify replaced parts as failed parts; this is an expected step to be completed in the thirty (30) minute heater function test time allotment.

**IMPORTANT NOTE:**

**Espar and Eberspächer have an “Always Repair Heater” policy.**



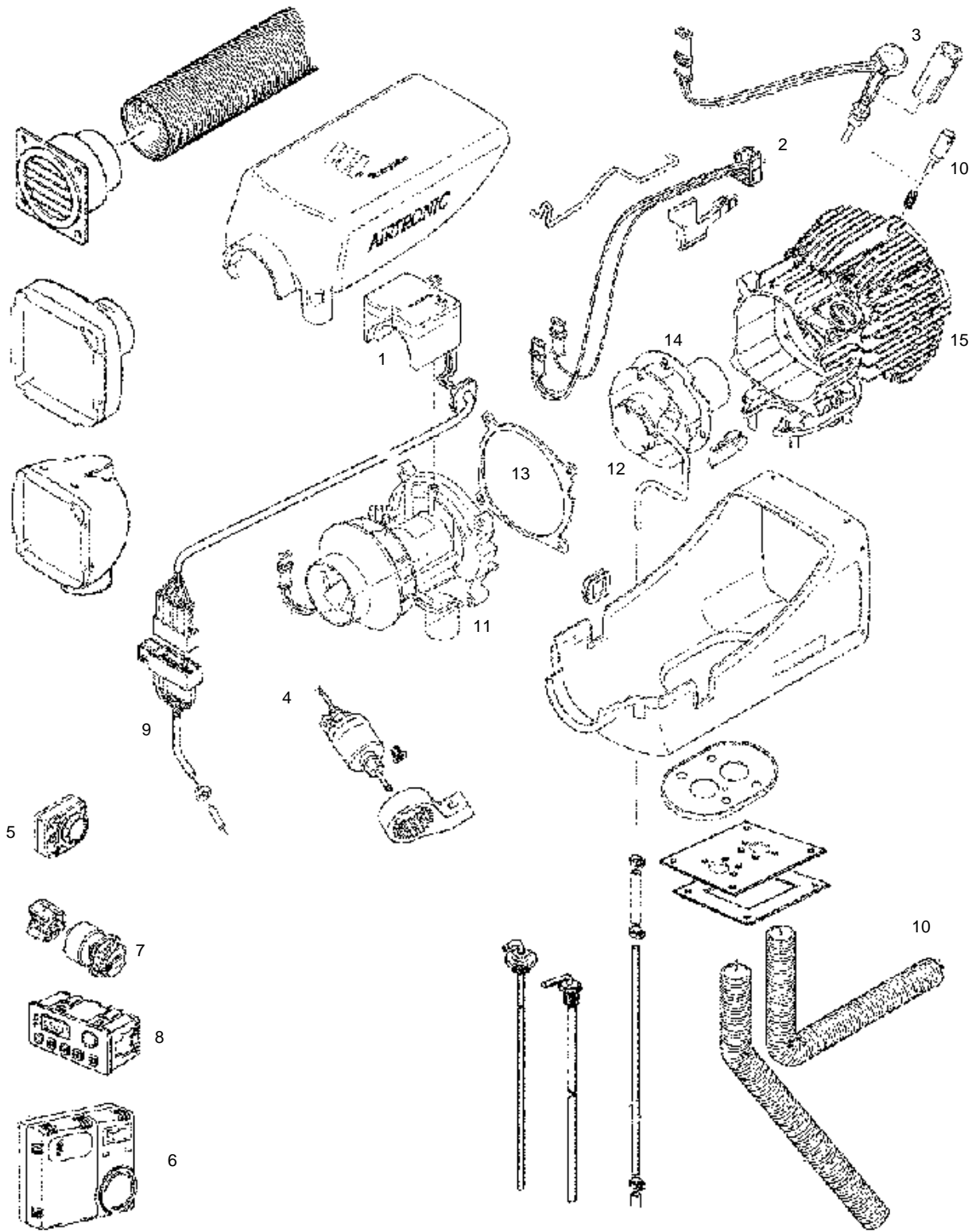
*AIRTRONIC D2 / D4*

**For Heater Model Numbers:**

<i>AIRTRONIC D2</i>	25 2069	25 2070
<i>AIRTRONIC D4</i>	25 2113	25 2114

Diagram Reference Number	Part Description	Operation	Flat Rate Labour Code	Time Allowance (minutes)	Warranty Authorization Number (WA#) Required
<b>A. Troubleshoot</b>			<b>A</b>	<b>30</b>	
<b>B. Components Replaced with Heater Installed</b>					
1	Electronic Control Unit (ECU)	Replace	<b>B180</b>	10	
2	Combi-Sensor (Overheat / Flame)	Replace	<b>B230</b>	10	
3	Glow Pin with Tool	Replace	<b>B310</b>	10	
4	Fuel-Metering Pump	Replace	<b>B480</b>	10	
5	Mini-Controller	Replace	<b>B540</b>	15	
6	Thermostat	Replace	<b>B545</b>	15	
7	Rheostat	Replace	<b>B550</b>	10	
8	7-Day Timer	Replace	<b>B565</b>	15	
9	Main Wire Harness	Repair	<b>B580</b>	30	
9	Main Wire Harness	Replace	<b>B520</b>	30	•
10	Exhaust Tube	Replace	<b>B585</b>	10	•
<b>C. Components Replaced with Heater Removed</b>			<b>C</b>	<b>60</b>	
11	Blower Unit	Replace	<b>C100</b>	10	
12	Burner / Flame Tube	Replace	<b>C050</b>	20	
13	Gasket, Blower	Replace	<b>C145</b>	15	
14	Gasket, Burner	Replace	<b>C080</b>	10	
15	Heat Exchanger	Clean	<b>C010</b>	15	•
<b>D. Heater Function Test</b>			<b>D</b>	<b>30</b>	

AIRTRONIC D2 / D4



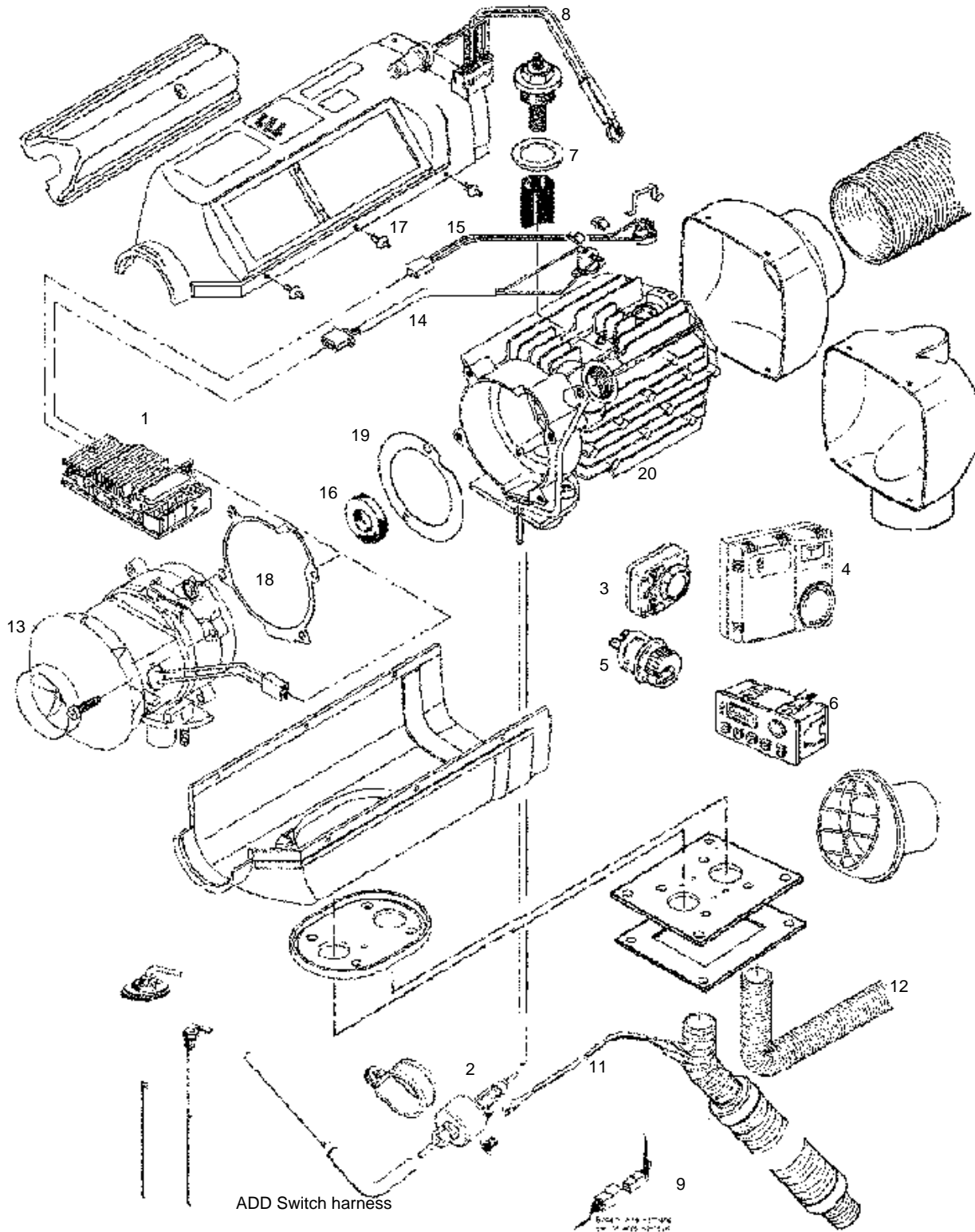
B/D1LC compact

**For Heater Model Numbers:**

B1LC compact	20 1766	
D1LC compact	25 1895	25 1976

Diagram Reference Number	Part Description	Operation	Flat Rate Labour Code	Time Allowance (minutes)	Warranty Authorization Number (WA#) Required
<b>A. Troubleshoot</b>			<b>A</b>	<b>30</b>	
<b>B. Components Replaced with Heater Installed</b>					
1	Electronic Control Unit (ECU)	Replace	<b>B180</b>	10	
14	Overheat Sensor	Replace	<b>C255</b>	15	
15	Flame Sensor	Replace	<b>C280</b>	15	
2	Fuel-Metering Pump	Replace	<b>B480</b>	10	
3	Mini-Controller	Replace	<b>B540</b>	15	
4	Thermostat	Replace	<b>B545</b>	15	
5	Rheostat	Replace	<b>B550</b>	10	
6	7-Day Timer	Replace	<b>B565</b>	15	
7	Seal, Glow Plug	Replace	<b>B330</b>	10	
8	Main Wire Harness	Repair	<b>B580</b>	10	
8	Main Wire Harness	Replace	<b>B520</b>	10	•
9	Battery Wire Harness	Replace	<b>B525</b>	15	•
10	Switch Wire Harness	Replace	<b>B530</b>	15	•
11	Fuel-Metering Pump Wire Harness	Replace	<b>B535</b>	15	•
12	Exhaust Tube	Replace	<b>B585</b>	10	•
<b>C. Components Replaced with Heater Removed</b>			<b>C</b>	<b>60</b>	
13	Blower Unit	Replace	<b>C100</b>	15	
16	Seal Ring, burner	Replace	<b>C085</b>	20	
17	Rivets	Replace	<b>C395</b>	10	
18	Gasket, Blower	Replace	<b>C145</b>	15	
19	Gasket, Burner	Replace	<b>C080</b>	20	
20	Heat Exchanger / Burner	Replace	<b>C005</b>	25	•
20	Heat Exchanger / Burner	Clean	<b>C010</b>	15	•
<b>D. Heater Function Test</b>			<b>D</b>	<b>30</b>	

B/D1LC compact



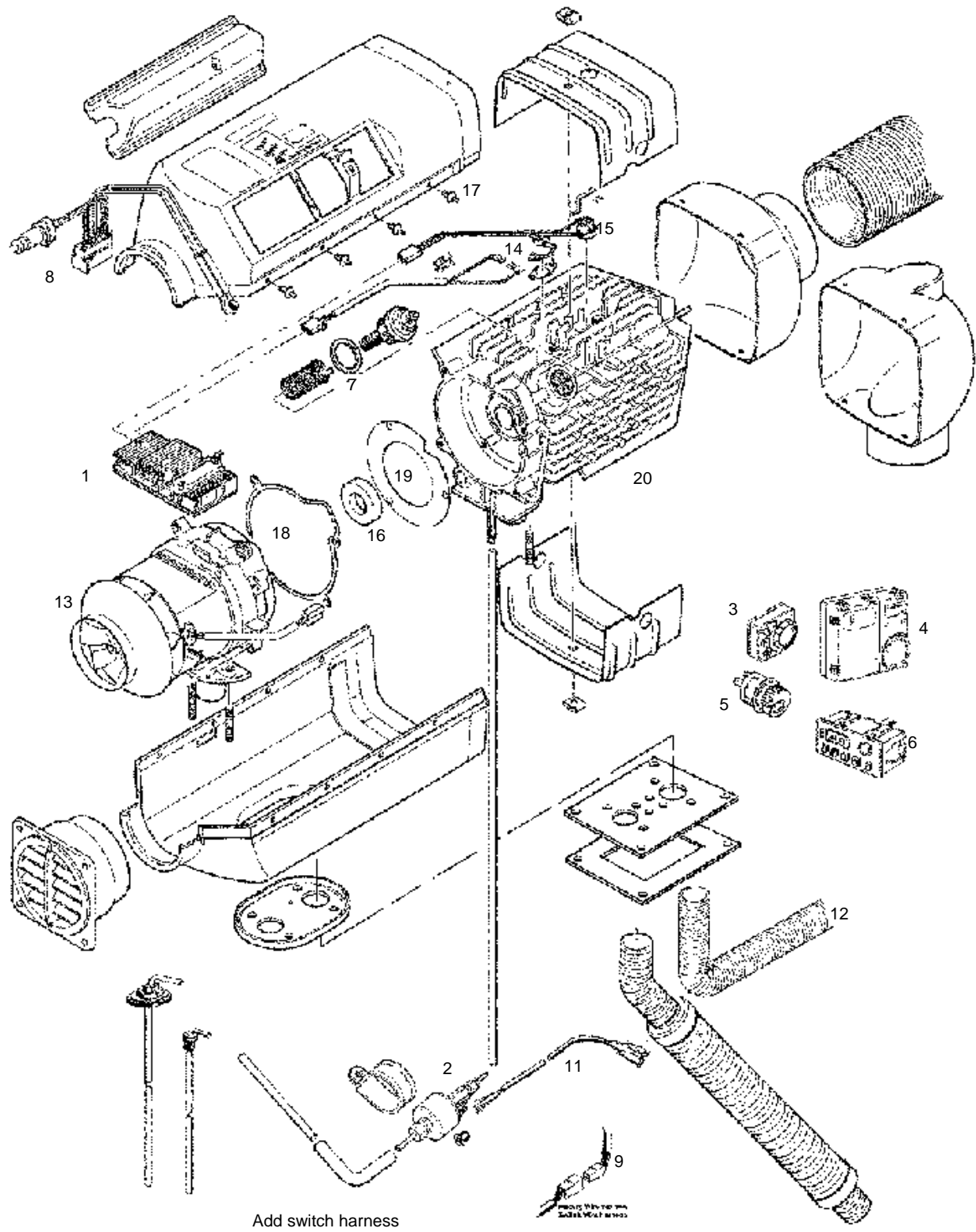
B/D3LC compact

**For Heater Model Numbers:**

B3LC compact	20 1767	
D3LC compact	25 1980	25 1981

Diagram Reference Number	Part Description	Operation	Flat Rate Labour Code	Time Allowance (minutes)	Warranty Authorization Number (WA#) Required
<b>A. Troubleshoot</b>			<b>A</b>	<b>30</b>	
<b>B. Components Replaced with Heater Installed</b>					
1	Electronic Control Unit (ECU)	Replace	<b>B180</b>	10	
14	Overheat Sensor	Replace	<b>B255</b>	15	
15	Flame Sensor	Replace	<b>B280</b>	15	
2	Fuel-Metering Pump	Replace	<b>B480</b>	10	
3	Mini-Controller	Replace	<b>B540</b>	15	
4	Thermostat	Replace	<b>B545</b>	15	
5	Rheostat	Replace	<b>B550</b>	10	
6	7-Day Timer	Replace	<b>B565</b>	15	
7	Seal, Glow Plug	Replace	<b>B330</b>	10	
8	Main Wire Harness	Repair	<b>B580</b>	10	
8	Main Wire Harness	Replace	<b>B520</b>	10	•
9	Battery Wire Harness	Replace	<b>B525</b>	15	•
10	Switch Wire Harness	Replace	<b>B530</b>	15	•
11	Fuel-Metering Pump Wire Harness	Replace	<b>B535</b>	15	•
12	Exhaust Tube	Replace	<b>B585</b>	10	•
<b>C. Components Replaced with Heater Removed</b>			<b>C</b>	<b>60</b>	
13	Blower Unit	Replace	<b>C100</b>	15	
16	Seal Ring, Burner	Replace	<b>C085</b>	20	
17	Rivets	Replace	<b>C395</b>	10	
18	Gasket, Blower	Replace	<b>C145</b>	15	
19	Gasket, Burner	Replace	<b>C080</b>	20	
20	Heat Exchanger / Burner	Replace	<b>C005</b>	25	•
20	Heat Exchanger / Burner	Clean	<b>C010</b>	15	•
<b>D. Heater Function Test</b>			<b>D</b>	<b>30</b>	

B/D3LC compact



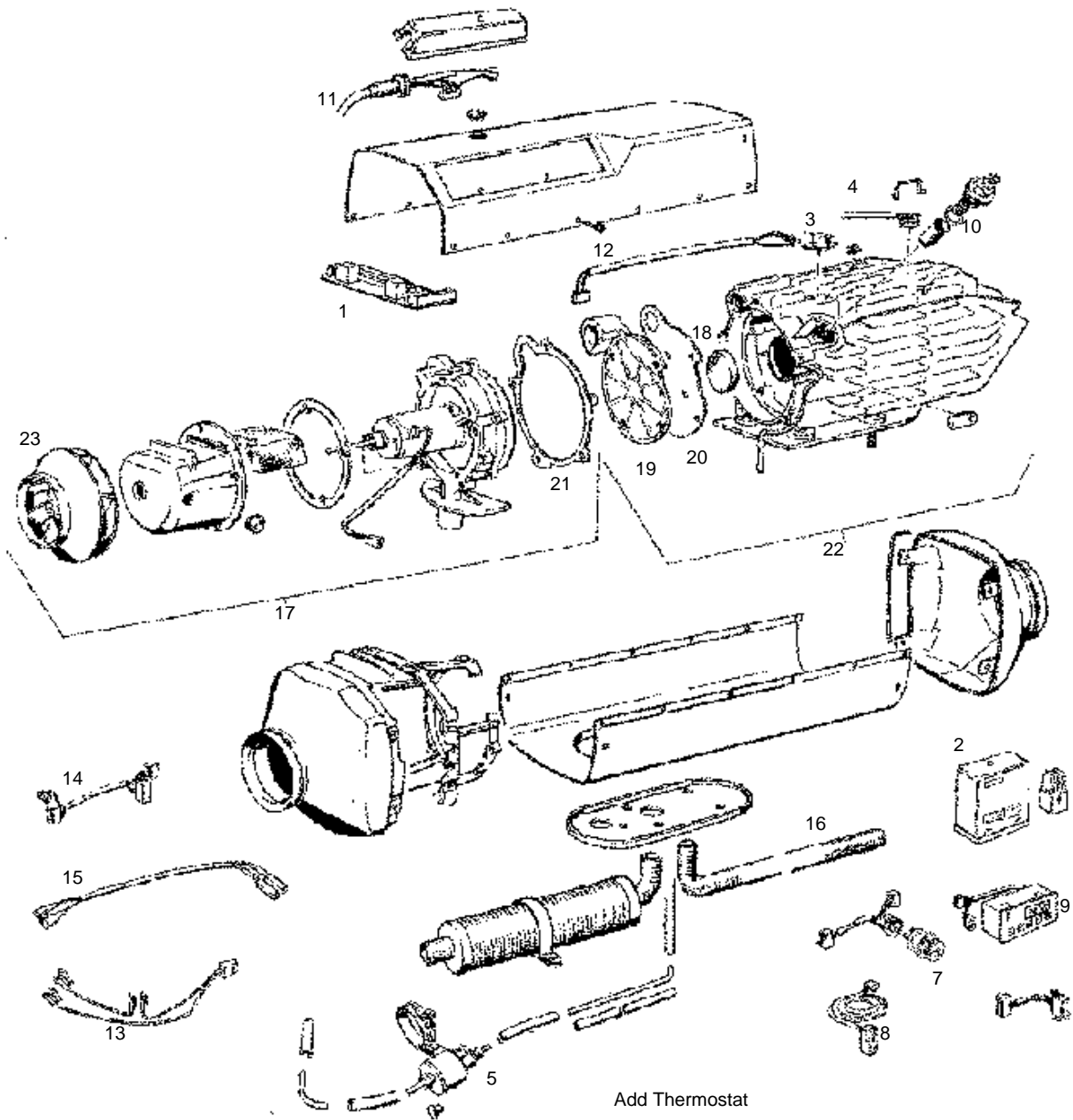
B/D5LC

**For Heater Model Numbers:**

B5LC	20 1735	
D5LC	25 1861	25 1862

Diagram Reference Number	Part Description	Operation	Flat Rate Labour Code	Time Allowance (minutes)	Warranty Authorization Number (WA#) Required
<b>A. Troubleshoot</b>			<b>A</b>	<b>30</b>	
<b>B. Components Replaced with Heater Installed</b>					
1	Printed Circuit Board	Replace	<b>B175</b>	10	
2	Electronic Control Unit (ECU)	Replace	<b>B180</b>	5	
3	Overheat Switch	Replace	<b>B270</b>	20	
4	Flame Sensor	Replace	<b>B280</b>	20	
5	Fuel-Metering Pump	Replace	<b>B480</b>	10	
6	Thermostat	Replace	<b>B545</b>	15	
7	Rheostat	Replace	<b>B550</b>	10	
8	Remote Temperature Sensor	Replace	<b>B555</b>	15	
9	7-Day Timer	Replace	<b>B565</b>	15	
10	Seal, Glow Plug	Replace	<b>B330</b>	10	
11	Main Wire Harness	Repair	<b>B580</b>	15	
11	Main Wire Harness	Replace	<b>B520</b>	15	•
12	Wire Harness, Overheat Switch	Replace	<b>B515</b>	20	•
13	Battery Wire Harness	Replace	<b>B525</b>	15	•
14	Switch Wire Harness	Replace	<b>B530</b>	15	•
15	Fuel-Metering Pump Wire Harness	Replace	<b>B535</b>	15	•
16	Exhaust Tube	Replace	<b>B585</b>	10	•
<b>C. Components Replaced with Heater Removed</b>			<b>C</b>	<b>60</b>	
17	Blower Unit	Replace	<b>C100</b>	20	
18	Seal Ring, Burner	Replace	<b>C085</b>	25	
19	Cover, Burner	Replace	<b>C090</b>	25	
20	Gasket, Blower	Replace	<b>C145</b>	15	
21	Gasket, Burner	Replace	<b>C080</b>	20	
22	Heat Exchanger / Burner	Replace	<b>C005</b>	30	•
22	Heat Exchanger / Burner	Clean	<b>C010</b>	15	•
23	Fan Wheel, Blower Unit	Replace	<b>C130</b>	20	•
<b>D. Heater Function Test</b>			<b>D</b>	<b>30</b>	

B/D5LC





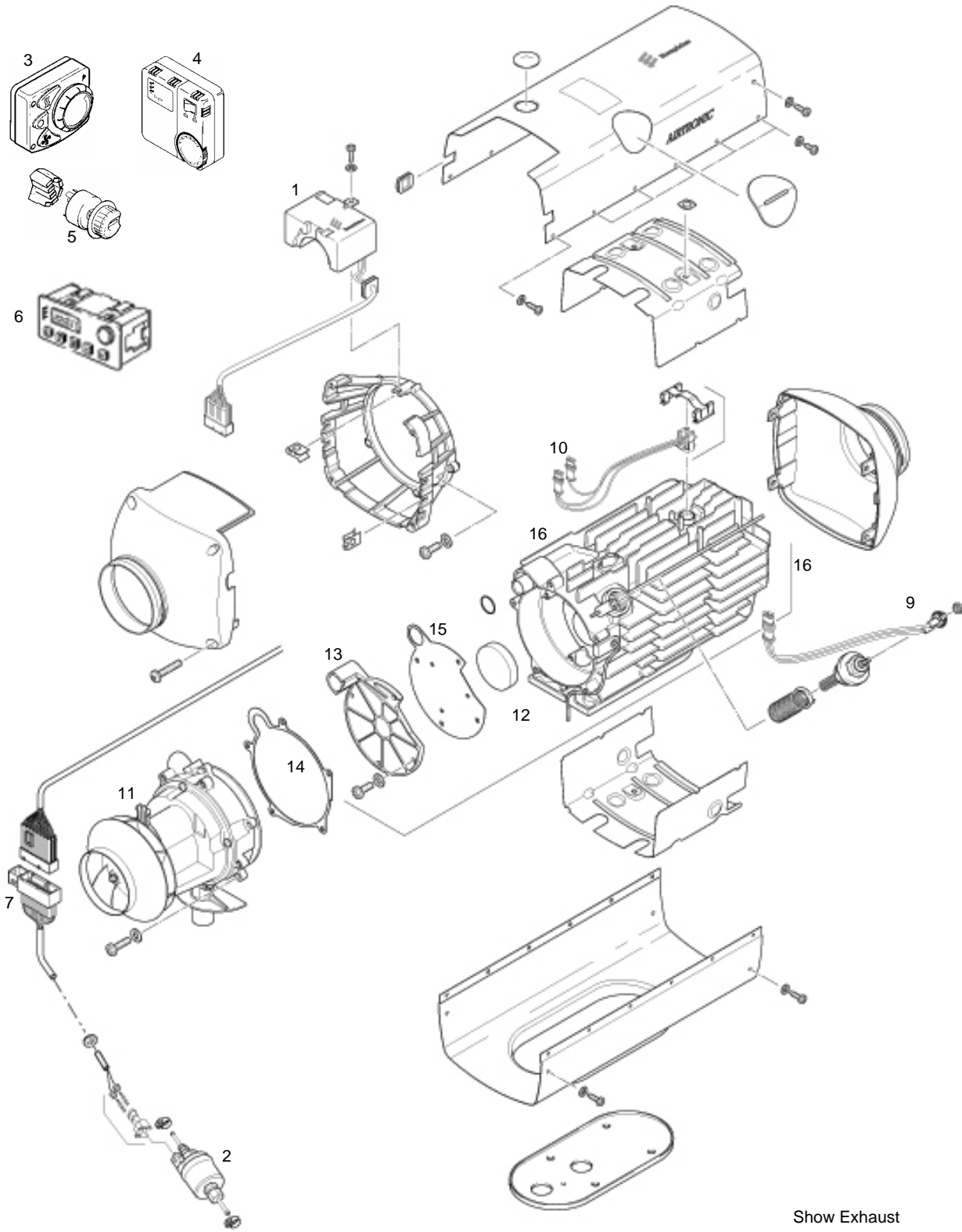
# AIRTRONIC 5

## For Heater Model Numbers:

AIRTRONIC B5	20 1859	
AIRTRONIC D5	25 2361	25 2362

Diagram Reference Number	Part Description	Operation	Flat Rate Labour Code	Time Allowance (minutes)	Warranty Authorization Number (WA#) Required
<b>A. Troubleshoot</b>			<b>A</b>	<b>30</b>	
<b>B. Components Replaced with Heater Installed</b>					
1	Electronic Control Unit (ECU)	Replace	<b>B180</b>	5	
10	Combi-Sensor (Overheat / Flame)	Replace	<b>B230</b>	20	
2	Fuel-Metering Pump	Replace	<b>B480</b>	10	
3	Mini-Controller	Replace	<b>B540</b>	15	
4	Thermostat	Replace	<b>B545</b>	10	
5	Rheostat	Replace	<b>B550</b>	15	
6	7-Day Timer	Replace	<b>B565</b>	15	
7	Main Wire Harness	Repair	<b>B580</b>	30	
7	Main Wire Harness	Replace	<b>B520</b>	30	•
8	Exhaust Tube	Replace	<b>B585</b>	10	•
<b>C. Components Replaced with Heater Removed</b>			<b>C</b>	<b>60</b>	
9	Wire Harness, Glow Plug	Replace	<b>C345</b>	15	
11	Blower Unit	Replace	<b>C100</b>	20	
12	Seal Ring, Burner	Replace	<b>C085</b>	25	
13	Cover, Burner	Replace	<b>C090</b>	25	
14	Gasket, Blower	Replace	<b>C145</b>	15	
15	Gasket, Burner	Replace	<b>C080</b>	20	
16	Heat Exchanger / Burner	Replace	<b>C005</b>	30	•
16	Heat Exchanger/Burner	Clean	<b>C010</b>	15	•
<b>D. Heater Function Test</b>			<b>D</b>	<b>30</b>	

# AIRTRONIC 5



Show Exhaust

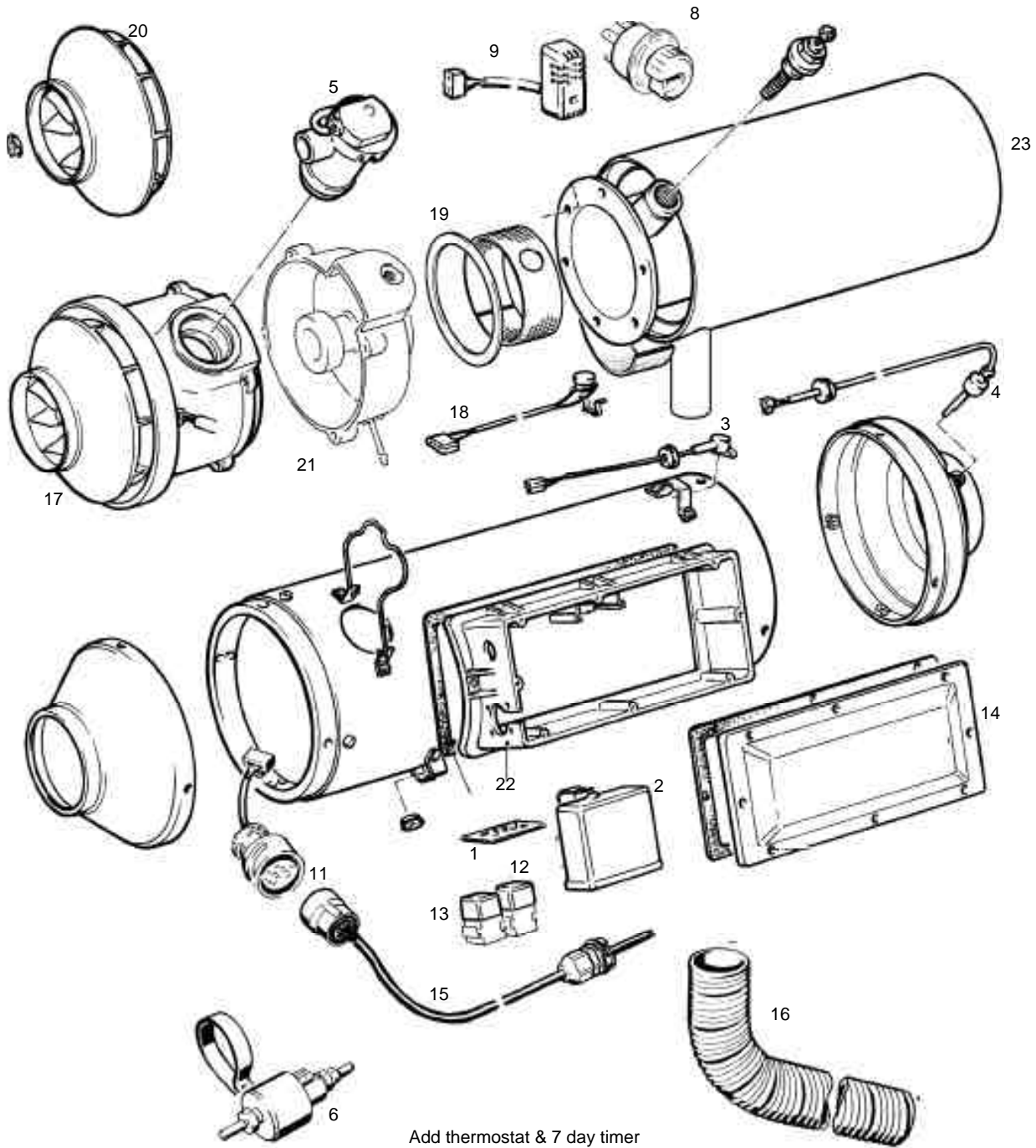
# D8LC

## For Heater Model Numbers:

D8LC	25 1890	25 1891
------	---------	---------

Diagram Reference Number	Part Description	Operation	Flat Rate Labour Code	Time Allowance (minutes)	Warranty Authorization Number (WA#) Required
<b>A. Troubleshoot</b>			<b>A</b>	<b>30</b>	
<b>B. Components Replaced with Heater Installed</b>					
1	Printed Circuit Board	Replace	<b>B175</b>	10	
2	Electronic Control Unit (ECU)	Replace	<b>B180</b>	10	
3	Overheat Switch	Replace	<b>B270</b>	10	
4	Temperature Sensor	Replace	<b>B305</b>	10	
5	Air-Solenoid Valve	Replace	<b>B380</b>	10	
6	Fuel-Metering Pump	Replace	<b>B480</b>	10	
7	Thermostat	Replace	<b>B545</b>	15	
8	Rheostat	Replace	<b>B550</b>	10	
9	Remote Temperature Sensor	Replace	<b>B555</b>	15	
10	7-Day Timer	Replace	<b>B565</b>	15	
11	Main Wire Harness	Repair	<b>B580</b>	30	
11	Main Wire Harness	Replace	<b>B520</b>	30	•
12	Glow Plug Relay	Replace	<b>B355</b>	5	•
13	Relay	Replace	<b>B390</b>	5	•
14	Cover, Component Box Housing	Replace	<b>B435</b>	5	•
15	Internal Main Wire Harness	Replace	<b>B510</b>	15	•
16	Exhaust Tube	Replace	<b>B585</b>	10	•
<b>C. Components Replaced with Heater Removed</b>			<b>C</b>	<b>60</b>	
17	Blower Unit	Replace	<b>C100</b>	35	
18	Flame Sensor	Replace	<b>C280</b>	30	
19	Gasket, Burner	Replace	<b>C080</b>	15	
20	Fan Wheel, Blower Unit	Replace	<b>C130</b>	15	•
21	Housing, Blower Unit	Replace	<b>C135</b>	35	•
22	Component Box housing with Seal	Replace	<b>C430</b>	20	•
23	Heat Exchanger / Burner	Replace	<b>C005</b>	45	•
23	Heat Exchanger / Burner	Clean	<b>C010</b>	20	•
<b>D. Heater Function Test</b>			<b>D</b>	<b>30</b>	

# D8LC



**HYDRONIC 4/5 SC**

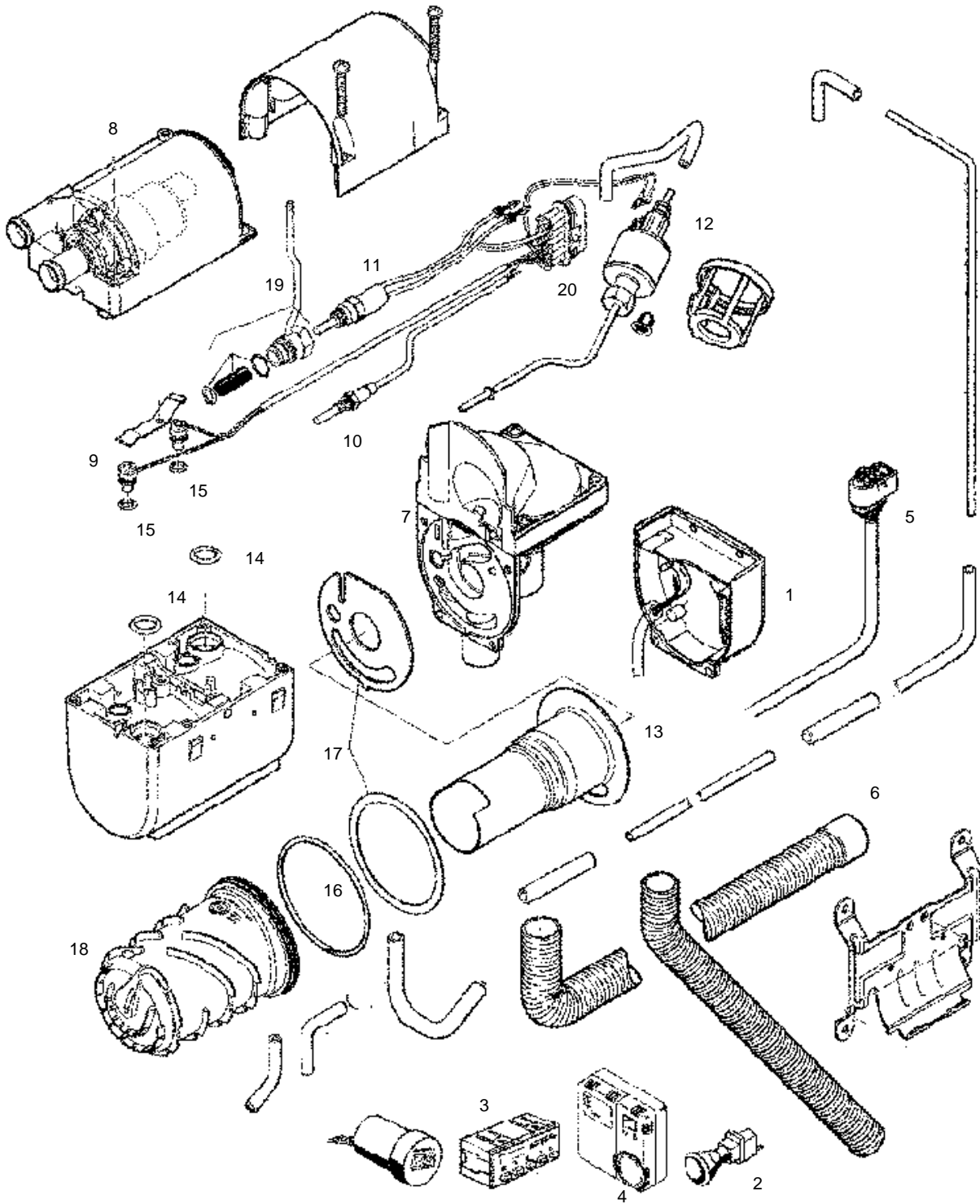
(Integrated Coolant Pump, Integrated Fuel-Metering Pump)

**For Heater Model Numbers:**

HYDRONIC D4	25 2096	25 2257
HYDRONIC D5	25 2098	25 2219

Diagram Reference Number	Part Description	Operation	Flat Rate Labour Code	Time Allowance (minutes)	Warranty Authorization Number (WA#) Required
<b>A. Troubleshoot</b>			<b>A</b>	<b>30</b>	
<b>B. Components Replaced with Heater Installed</b>					
1	Electronic Control Unit (ECU)	Replace	<b>B180</b>	10	
2	Push/Pull Toggle Switch	Replace	<b>B560</b>	10	
3	7-Day Timer	Replace	<b>B565</b>	15	
4	Thermostat	Replace	<b>B545</b>	15	
5	Main Wire Harness	Repair	<b>B580</b>	30	
5	Main Wire Harness	Replace	<b>B520</b>	30	•
6	Exhaust Tube	Replace	<b>B585</b>	10	•
<b>C. Components Replaced with Heater Removed</b>			<b>C</b>	<b>60</b>	
7	Blower Unit	Replace	<b>C100</b>	20	
8	Coolant Pump	Replace	<b>C200</b>	15	
9	Overheat / Temperature Sensor	Replace	<b>C240</b>	20	
10	Flame Sensor	Replace	<b>C280</b>	15	
11	Glow Pin	Replace	<b>C310</b>	15	
12	Fuel-Metering Pump	Replace	<b>C480</b>	20	
13	Burner / Flame Tube	Replace	<b>C050</b>	25	
14	O-Rings, Coolant Pump	Replace	<b>C205</b>	15	
15	O-Rings, Sensors	Replace	<b>C245</b>	15	
16	O-Ring, Heat Exchanger	Replace	<b>C020</b>	30	
17	Gasket, Burner / Blower	Replace	<b>C080</b>	25	
18	Heat Exchanger	Clean	<b>C010</b>	15	•
19	Fuel Connection, Glow Pin	Replace	<b>C315</b>	20	•
20	Internal Main Wire Harness	Replace	<b>C510</b>	20	•
<b>D. Heater Function Test</b>			<b>D</b>	<b>30</b>	

**HYDRONIC 4/5 SC**  
(Integrated Coolant Pump, Integrated Fuel-Metering Pump)



## HYDRONIC 4/5 SC

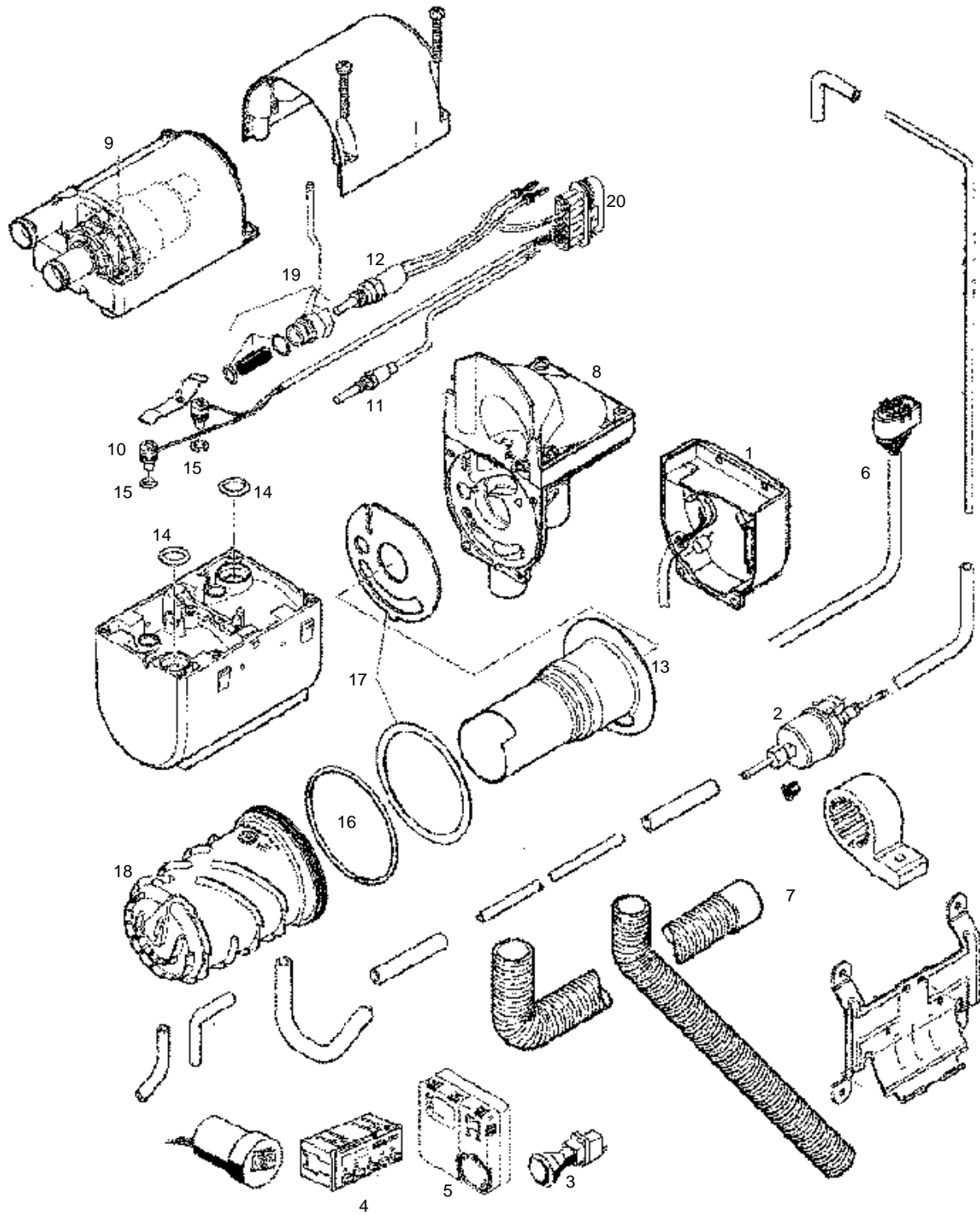
(Integrated Coolant Pump, External Fuel-Metering Pump)

### For Heater Model Numbers:

HYDRONIC B4	20 1824	
HYDRONIC B5	20 1820	
HYDRONIC D5	25 2147	25 2325

Diagram Reference Number	Part Description	Operation	Flat Rate Labour Code	Time Allowance (minutes)	Warranty Authorization Number (WA#) Required
<b>A. Troubleshoot</b>			<b>A</b>	<b>30</b>	
<b>B. Components Replaced with Heater Installed</b>					
1	Electronic Control Unit (ECU)	Replace	<b>B180</b>	10	
2	Fuel-Metering Pump	Replace	<b>B480</b>	10	
3	Push/Pull Toggle Switch	Replace	<b>B560</b>	10	
4	7-Day Timer	Replace	<b>B565</b>	15	
5	Thermostat	Replace	<b>B545</b>	15	
6	Main Wire Harness	Repair	<b>B580</b>	30	
6	Main Wire Harness	Replace	<b>B520</b>	30	•
7	Exhaust Tube	Replace	<b>B585</b>	10	•
<b>C. Components Replaced with Heater Removed</b>			<b>C</b>	<b>60</b>	
8	Blower Unit	Replace	<b>C100</b>	20	
9	Coolant Pump	Replace	<b>C200</b>	15	
10	Overheat / Temperature Sensor	Replace	<b>C240</b>	20	
11	Flame Sensor	Replace	<b>C280</b>	15	
12	Glow Pin	Replace	<b>C310</b>	15	
13	Burner / Flame Tube	Replace	<b>C050</b>	25	
14	O-Rings, Coolant Pump	Replace	<b>C205</b>	15	
15	O-Rings, Sensors	Replace	<b>C245</b>	15	
16	O-Ring, Heat Exchanger	Replace	<b>C020</b>	30	
17	Gasket Burner / Blower	Replace	<b>C080</b>	25	
18	Heat Exchanger	Clean	<b>C010</b>	15	•
19	Fuel Connection, Glow Pin	Replace	<b>C315</b>	20	•
20	Internal Main Wire Harness	Replace	<b>C510</b>	20	•
<b>D. Heater Function Test</b>			<b>D</b>	<b>30</b>	

**HYDRONIC 4/5 SC**  
(Integrated Coolant Pump, External Fuel-Metering Pump)





## HYDRONIC 5 S

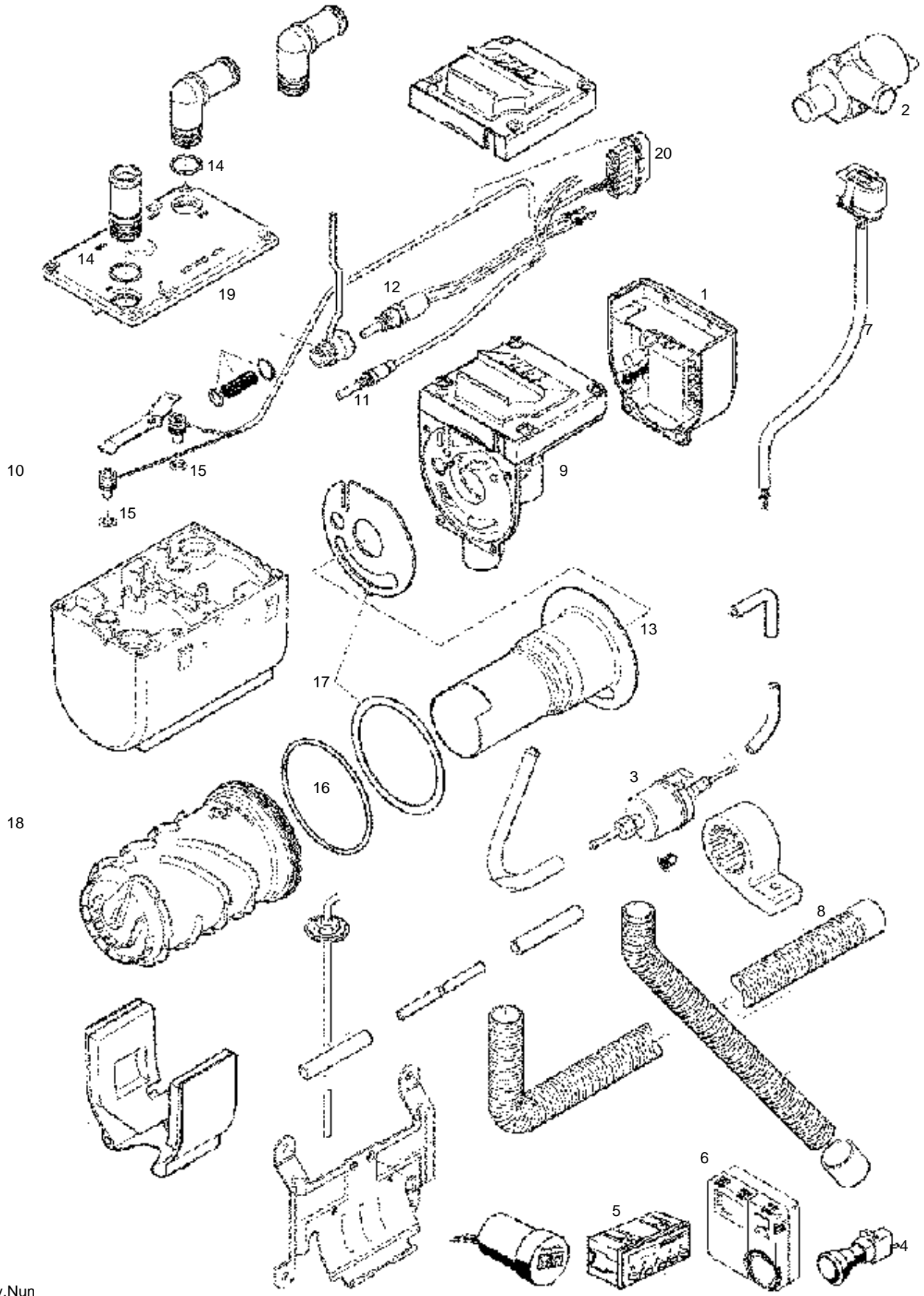
(External Coolant Pump, External Fuel-Metering Pump)

### For Heater Model Numbers:

HYDRONIC B5	20 1819		
HYDRONIC D5	25 2146	25 2217	25 2218

Diagram Reference Number	Part Description	Operation	Flat Rate Labour Code	Time Allowance (minutes)	Warranty Authorization Number (WA#) Required
<b>A. Troubleshoot</b>			<b>A</b>	<b>30</b>	
<b>B. Components Replaced with Heater Installed</b>					
1	Electronic Control Unit (ECU)	Replace	<b>B180</b>	10	
2	Coolant Pump	Replace	<b>B200</b>	10	
3	Fuel-Metering Pump	Replace	<b>B480</b>	10	
4	Push/Pull Toggle Switch	Replace	<b>B560</b>	10	
5	7-Day Timer	Replace	<b>B565</b>	15	
6	Thermostat	Replace	<b>B545</b>	15	
7	Main Wire Harness	Repair	<b>B580</b>	30	
7	Main Wire Harness	Replace	<b>B520</b>	30	•
8	Exhaust Tube	Replace	<b>B585</b>	10	•
<b>C. Components Replaced with Heater Removed</b>			<b>C</b>	<b>60</b>	
9	Blower Unit	Replace	<b>C100</b>	20	
10	Overheat / Temperature Sensor	Replace	<b>C240</b>	20	
11	Flame Sensor	Replace	<b>C280</b>	15	
12	Glow Pin	Replace	<b>C310</b>	15	
13	Burner / Flame Tube	Replace	<b>C050</b>	25	
14	O-Rings, Coolant Pump	Replace	<b>C205</b>	15	
15	O-Rings, Sensors	Replace	<b>C245</b>	15	
16	O-Ring, Heat Exchanger	Replace	<b>C020</b>	30	
17	Gasket, Burner / Blower	Replace	<b>C080</b>	25	
18	Heat Exchanger	Clean	<b>C010</b>	15	•
19	Fuel Connection, Glow Pin	Replace	<b>C315</b>	20	•
20	Internal Main Wire Harness	Replace	<b>C510</b>	20	•
<b>D. Heater Function Test</b>			<b>D</b>	<b>30</b>	

**HYDRONIC 5 S**  
(External Coolant Pump, External Fuel-Metering Pump)



## HYDRONIC 5 Z

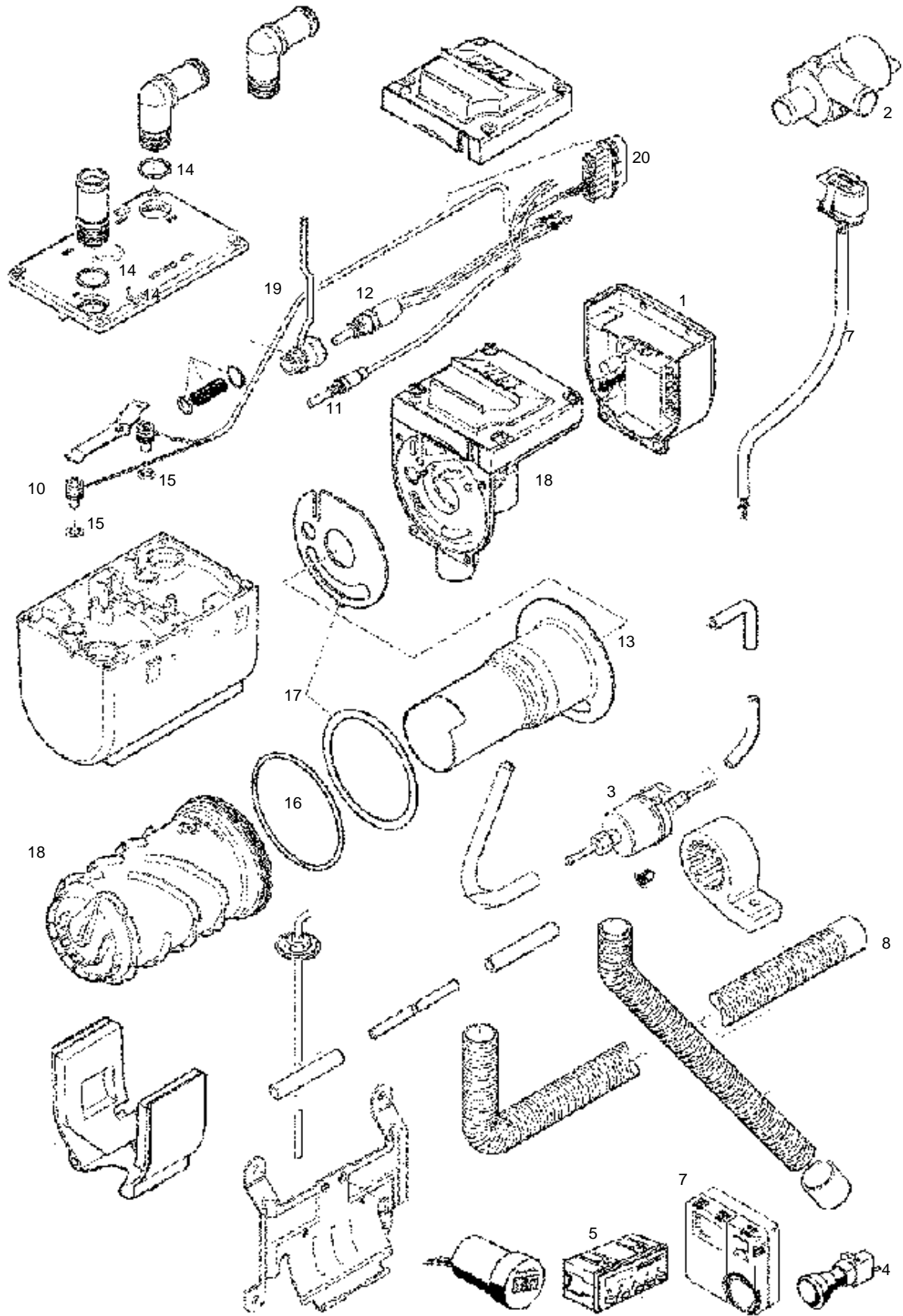
(No Coolant Pump, External Fuel-Metering Pump)

### For Heater Model Number:

HYDRONIC D5	25 2116
-------------	---------

Diagram Reference Number	Part Description	Operation	Flat Rate Labour Code	Time Allowance (minutes)	Warranty Authorization Number (WA#) Required
<b>A. Troubleshoot</b>			<b>A</b>	<b>30</b>	
<b>B. Components Replaced with Heater Installed</b>					
1	Electronic Control Unit (ECU)	Replace	<b>B180</b>	10	
2	Coolant Pump	Replace	<b>B200</b>	10	
3	Fuel-Metering Pump	Replace	<b>B480</b>	10	
4	Push/Pull Toggle Switch	Replace	<b>B560</b>	10	
5	7-Day Timer	Replace	<b>B565</b>	15	
6	Thermostat	Replace	<b>B545</b>	15	
7	Main Wire Harness	Repair	<b>B580</b>	30	
8	Main Wire Harness	Replace	<b>B520</b>	30	•
12	Exhaust Tube	Replace	<b>B585</b>	10	•
<b>C. Components Replaced with Heater Removed</b>			<b>C</b>	<b>60</b>	
9	Blower Unit	Replace	<b>C100</b>	20	
10	Overheat / Temperature Sensor	Replace	<b>C240</b>	20	
11	Flame Sensor	Replace	<b>C280</b>	15	
12	Glow Pin	Replace	<b>C310</b>	15	
13	Burner / Flame Tube	Replace	<b>C050</b>	25	
14	O-Rings, Coolant Pump	Replace	<b>C205</b>	15	
15	O-Rings, Sensors	Replace	<b>C245</b>	15	
16	O-Ring, Heat Exchanger	Replace	<b>C020</b>	30	
17	Gasket, Burner / Blower	Replace	<b>C080</b>	25	
18	Heat Exchanger	Clean	<b>C010</b>	15	•
19	Fuel Connection, Glow Pin	Replace	<b>C315</b>	20	•
20	Internal Main Wire Harness	Replace	<b>C510</b>	20	•
<b>D. Heater Function Test</b>			<b>D</b>	<b>30</b>	

**HYDRONIC 5 Z**  
(No Coolant Pump, External Fuel-Metering Pump)



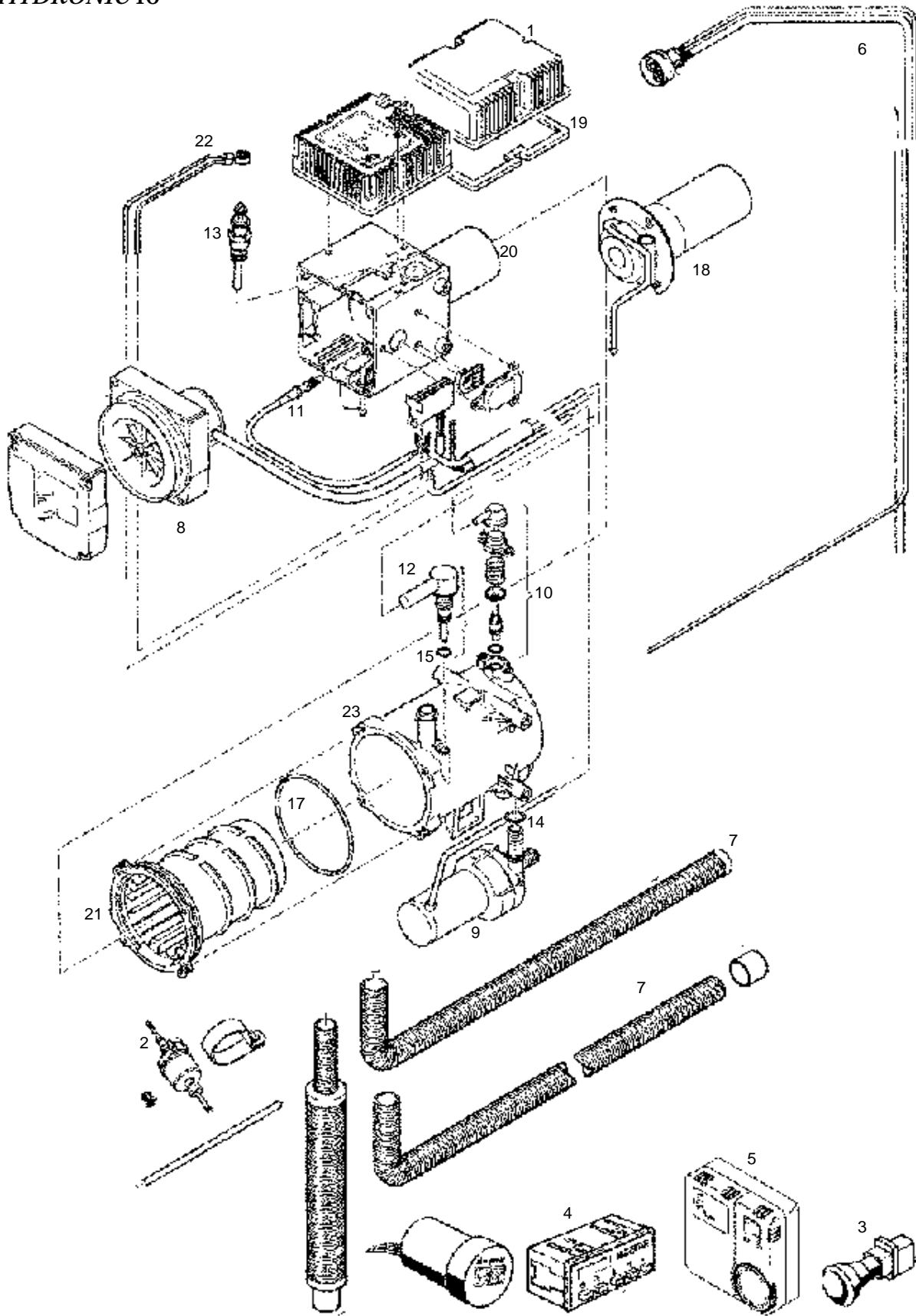
# HYDRONIC 10

## For Heater Model Numbers:

HYDRONIC 10	25 2160	25 2227
-------------	---------	---------

Diagram Reference Number	Part Description	Operation	Flat Rate Labour Code	Time Allowance (minutes)	Warranty Authorization Number (WA#) Required
<b>A. Troubleshoot</b>			<b>A</b>	<b>30</b>	
<b>B. Components Replaced with Heater Installed</b>					
1	Electronic Control Unit (ECU)	Replace	<b>B180</b>	10	
2	Fuel-Metering Pump	Replace	<b>B480</b>	10	
3	Push/Pull Toggle Switch	Replace	<b>B560</b>	10	
4	7-Day Timer	Replace	<b>B565</b>	15	
5	Thermostat	Replace	<b>B545</b>	15	
6	Main Wire Harness	Repair	<b>B580</b>	30	
6	Main Wire Harness	Replace	<b>B520</b>	30	•
7	Exhaust Tube	Replace	<b>B585</b>	10	•
<b>C. Components Replaced with Heater Removed</b>			<b>C</b>	<b>60</b>	
8	Blower Unit	Replace	<b>C100</b>	15	
9	Coolant Pump	Replace	<b>C200</b>	15	
10	Overheat Sensor	Replace	<b>C255</b>	15	
11	Flame Sensor	Replace	<b>C280</b>	20	
12	Temperature Sensor	Replace	<b>C305</b>	15	
13	Glow Pin	Replace	<b>C310</b>	10	
14	O-Ring, Coolant Pump	Replace	<b>C205</b>	10	
16	O-Ring, Overheat Sensor	Replace	<b>C265</b>	15	
15	O-Ring, Temperature Sensor	Replace	<b>C295</b>	15	
17	O-Ring, Heat Exchanger	Replace	<b>C020</b>	25	
18	Burner / Flame Tube	Replace	<b>C050</b>	35	
19	Gasket, ECU	Replace	<b>B185</b>	10	
20	Burner with Housing	Replace	<b>C055</b>	35	•
21	Heat Exchanger	Clean	<b>C010</b>	15	•
22	Wire Harness, Glow Pin	Replace	<b>C911</b>	15	•
<b>D. Heater Function Test</b>			<b>D</b>	<b>30</b>	

HYDRONIC 10



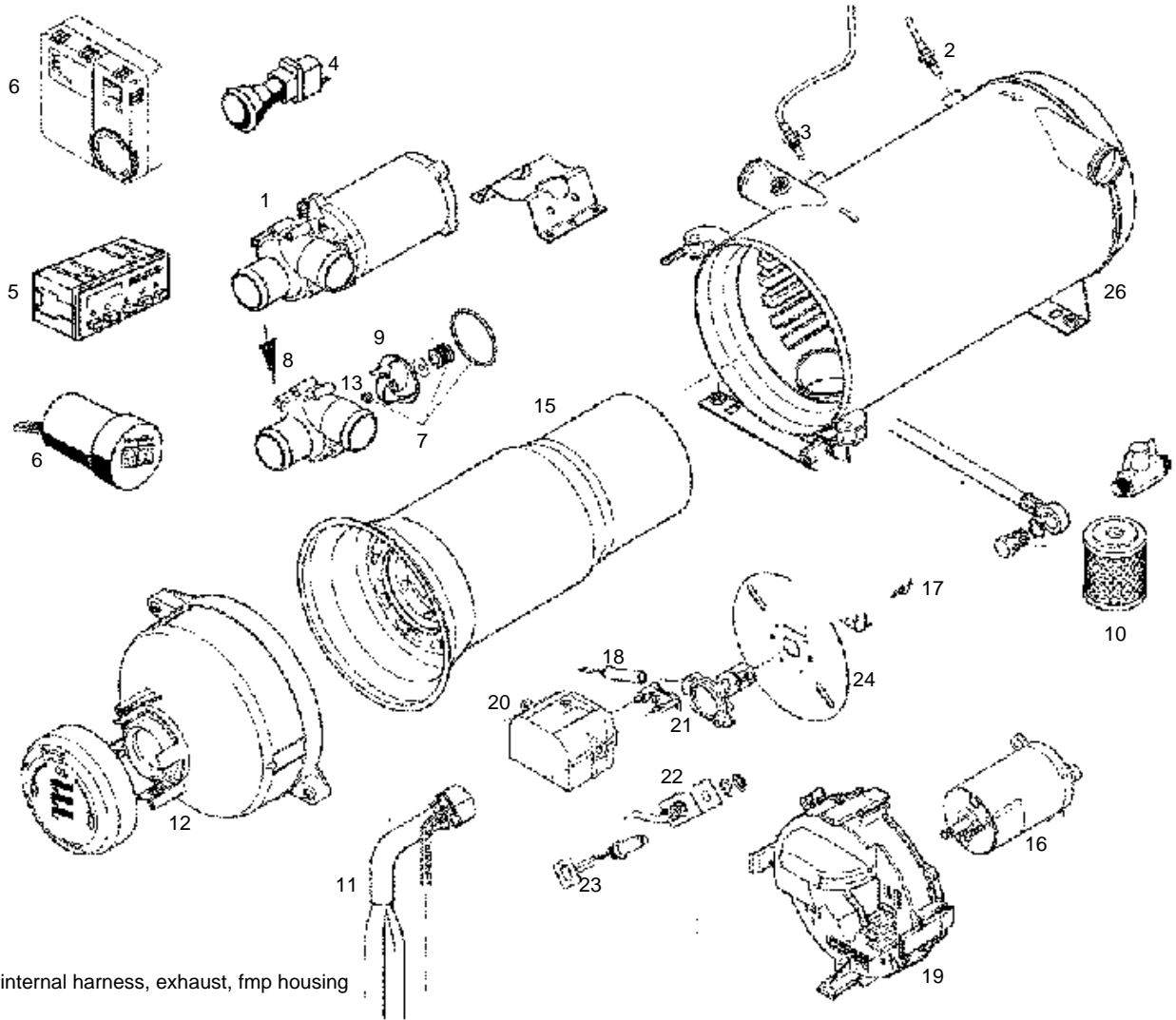
HYDRONIC 16 / 24 / 30 / 35

**For Heater Model Numbers:**

HYDRONIC 16	25 2165
HYDRONIC 24	25 1817
HYDRONIC 30	25 1818
HYDRONIC 35	25 1819

Diagram Reference Number	Part Description	Operation	Flat Rate Labour Code	Time Allowance (minutes)	Warranty Authorization Number (WA#) Required
<b>A. Troubleshoot</b>			<b>A</b>	<b>30</b>	
<b>B. Components Replaced with Heater Installed</b>					
1	Coolant Pump	Replace	<b>B200</b>	10	
2	Overheat Sensor	Replace	<b>B255</b>	10	
3	Temperature Sensor	Replace	<b>B305</b>	10	
4	Push/Pull Toggle Switch	Replace	<b>B560</b>	10	
5	7-Day Timer	Replace	<b>B565</b>	15	
6	Thermostat	Replace	<b>B545</b>	15	
7	Seal Kit, Coolant Pump	Replace	<b>B210</b>	20	
8	Housing, Coolant Pump	Replace	<b>B215</b>	15	
9	Impeller Wheel, Coolant Pump	Replace	<b>B220</b>	15	
10	Filter, Fuel Pump	Replace	<b>B485</b>	10	
11	Main Wire Harness	Repair	<b>B580</b>	30	
11	Main Wire Harness	Replace	<b>B520</b>	30	•
12	Combustion-Air Inlet Hood	Replace	<b>B450</b>	10	•
13	Internal Main Wire Harness	Replace	<b>B510</b>	5	•
14	Exhaust Tube	Replace	<b>B585</b>	10	•
<b>C. Components Replaced with Burner Head Removed</b>			<b>C</b>	<b>30</b>	
15	Burner / Flame Tube	Replace	<b>C050</b>	5	
16	Burner Motor	Replace	<b>C105</b>	10	
17	Fuel Atomizer Nozzle	Replace	<b>C165</b>	10	
18	Heat Element, Nozzle	Replace	<b>C170</b>	10	
19	Electronic Control Unit (ECU)	Replace	<b>C180</b>	10	
20	Ignition Spark Generator	Replace	<b>C195</b>	10	
21	Ignition Electrodes	Replace	<b>C335</b>	10	
22	Fuel Solenoid Coil	Replace	<b>C500</b>	15	
23	Hardware for Fuel Solenoid Coil	Replace	<b>C505</b>	15	
24	Baffle Plate / Heat Shield	Replace	<b>C155</b>	5	
25	Fuel Pump / Housing	Replace	<b>C495</b>	20	•
<b>D. Components Replaced with Heater Removed</b>			<b>D</b>	<b>60</b>	
26	Heat Exchanger / Water Jacket	Replace	<b>D005</b>	20	•
26	Heat Exchanger / Water Jacket	Clean	<b>D010</b>	20	•
<b>E. Heater Function Test</b>			<b>E.</b>	<b>30</b>	

# HYDRONIC 16 / 24 / 30 / 35



Show main internal harness, exhaust, fmp housing



## Tools and Equipment

Generally, standard shop tools are required for the installation and repair of Espar heaters. However, there are a few additional tools required for efficient troubleshooting and repair. All required tools are listed below.

### REQUIRED Equipment for General Heater Repair

#### Diagnostic Unit

- Previously named "Fault Code Retrieval Device"
- Appropriate diagnostic wire adaptors

Electrician's crimping tool for non-insulated terminals

Terminal Removal Tool, 1.6mm

Terminal Removal Tool, 2.8mm

Graduated cylinder, range of 0 to 50cm<sup>3</sup> or 0 to 50ml

Torx drivers

Metric Allen key wrenches

Metric wrenches and / or sockets (4mm through 27mm)

Fuel line cutter or knife

Multi-meter

For complete and thorough service of Espar heaters, the following special tools and equipment are recommended in addition to those listed above.

### Special Tools

KD2000 or EDiTH diagnostic computer software and hardware

Graduated cylinder, range of 0 to 500cm<sup>3</sup> (for HYDRONIC 16 / 24 / 30 / 35, D24W, D30W)

Spark gapping gauge(s)

- HYDRONIC 16 / 24 / 30 / 35
- D24W, D30W

Tachometer (RPM meter), optical or digital readout preferred

Stopwatch

Thermometer, minimum range of 0C to 300C (32F to 572F)

Carbon dioxide (CO<sub>2</sub>) gas analyzer, minimum range of 0 to 20%

Smoke Tester

## **Computer Diagnostic Tools**

### EDiTH

EDiTH CD (full version)

EDiTH Basic Adapter (Without Extensions)

ISO Adapter

Extension EDiTH HYDRONIC 3/4/5

Extension EDiTH D2I Control Units

Extension EDiTH D2H Control Units

Extension EDiTH AIRTRONIC

Extension EDiTH HYDRONIC 10 (From version 25 2160 05/25 2161 05)

Extension EDiTH HYDRONIC 16/24/30/35

### KD2000

Software and Hardware

Software only, Version 2.8

Is used with a notebook or portable computer to analyze an installed heater

Heater operation data may be saved for further analysis

Compatible with AIRTRONIC, HYDRONIC 4 / 5, and HYDRONIC 16 / 24 / 30 / 35 heaters

Not applicable to HYDRONIC 4 / 5, models 25 1917 01 and 25 1920 05

Compatible with Windows 95, 98, 98SE, NT 4.0, ME, and 2000 operating systems

May be used with Windows XP using XP's compatibility mode

### Control Unit Download

Displays diagnostic fault codes and heater operational hour meter

Can perform ECU internal function test

For B / D1LC, B / D3LC, B / D5LC

For B / D1LC compact, B / D3LC compact

For HYDRONIC 4 / 5, models 25 1917 01 and 25 1920 05

### Wire Adaptors

	KD2000	EDiTH	Diagnostic Unit and FCRD
AIRTRONIC (with diagnostic pigtail)	X	I	O
AIRTRONIC (without diagnostic pigtail)	X	I	X
D1LC compact			
D3LC compact			O
D5LC			O
AIRTRONIC 5 (with diagnostic pigtail)	X	I	O
(without diagnostic pigtail)	X	I	X
D8LC			O
HYDRONIC 4 / 5 (all except 25 1917 01 and 25 1920 05)	X	I	X
HYDRONIC 4 / 5 (Models 25 1917 01 or 25 1920 05)		I	X
HYDRONIC 10 (Models 25 2081 05, 25 2044 05)			X
HYDRONIC 10 (Models 25 2160 05, 25 2227 05)		I	O
HYDRONIC 16 / 24 / 30 / 35 HYDRONIC 16 / 24 / 30 / 35	X		X X

Notes: FCRD = Fault Code Retrieval Device  
X = Heater is Compatible; Wiring Adaptor is Required  
O = Heater is Compatible; Wiring Adaptor is NOT Required  
I = Heater is capable for EDiTH diagnosis

## The Espar Limited Warranty

Espar Products Inc. ("**Espar**") warrants its heaters (the "**Products**") to be free from defects in materials and workmanship, subject to the terms below.

Espar will, at its option, repair or replace any Products or any parts of a Product which are subject to warranty according to Espar's Warranty Manual (the "**Warranted Parts**"), if such Products or Warranted Parts are proven defective in materials or workmanship during the relevant warranty period (the "**Warranty Period**") described below. This is Espar's sole obligation under this warranty.

This warranty extends only to the original (each an "**Owner**"). Unless Espar agrees in writing, this warranty cannot be transferred and it only applies to a Product in its original installation.

The Warranty Period is: (a) two (2) years or two thousand (2000) operating hours (whichever comes first) for AIRTRONIC 2, AIRTRONIC 4, AIRTRONIC 5, B1LC compact, B/D3LC compact, HYDRONIC 4, HYDRONIC 5 and B/D5W heaters; or (b) one (1) year or one thousand (1000) operating hours (whichever comes first) for all other Espar heaters.

The Warranty Period begins on: (a) the date of sale of equipment containing the Product by an Original Equipment Manufacturer ("**OEM**") to the Owner; or (b) the date of installation for the Owner or the date of shipment by Espar, whichever is later, for all Products not sold to an Owner by an OEM.

To obtain service of a Product under this warranty, present the nearest Espar authorized and trained dealer (each an "**Espar Dealer**") with proof of purchase and for Products not sold by an OEM, the date of installation. To establish the date of purchase and date of installation of a Product, Owners should register for the Espar Warranty on-line at [www.espar.com](http://www.espar.com) within thirty (30) days of the installation or purchase of the Product. If the Owner has not registered online, the Owner can submit to the Espar Dealer other reasonable proof of the dates of purchase and for Products not sold by an OEM, of product installation. If the Owner cannot prove such dates, the Warranty Period will be deemed to have started when the Product was shipped by Espar.

The Espar Dealer will perform warranty service subject to this warranty and Espar's Warranty Manual. The Espar Dealer will also complete and submit a Warranty Claim to Espar. Espar will pay only Espar Dealers or installers to remove and re-install Products and Warranted Parts according to Espar's Warranty Manual. Espar shall not pay for any other labour costs.

Depending on where and how the Product was installed, the Owner may be required to return the Product to the Espar Dealer who originally installed the Product for warranty service. The cost of this return will be paid by the Owner. When servicing according to this warranty, Espar or an Espar Dealer may replace parts with new parts and change part specifications without notice provided such replacements or changes do not adversely affect the Product's performance.

This warranty does not cover damage or defects caused by: (a) installation; (b) service; (c) the use of replacement parts which are not genuine Espar parts; (d) use of a Product for other than its intended purpose; (e) use under other than normal conditions; (f) use contrary to Espar's instructions; (g) accident; (h) neglect; or (i) normal wear and tear on parts such as glow plugs, atomizer screens, fuel filters, fuses, lamp bulbs, intake and exhaust tubing and ducting.

THIS WARRANTY IS IN LIEU OF ALL OTHER EXPRESSED OR IMPLIED WARRANTIES. ESPAR'S LIABILITY FOR DAMAGES IS LIMITED TO THE COST OF REPLACING THE PRODUCT. ESPAR SHALL NOT BE LIABLE FOR SPECIAL, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES. THIS IS ESPAR'S ENTIRE WARRANTY. IT CAN ONLY BE CHANGED WITH THE EXPRESS WRITTEN CONSENT OF ESPAR.

THIS WARRANTY SHALL BE INTERPRETED AND GOVERNED BY THE LAWS OF THE PROVINCE OF ONTARIO, CANADA REGARDLESS OF WHERE THE PRODUCT IS SOLD OR INSTALLED. ANY LEGAL ACTION REGARDING THIS WARRANTY SHALL ONLY BE COMMENCED IN THE SUPERIOR COURT OF JUSTICE IN ONTARIO. THE PARTIES EXPRESSLY WAIVE ANY RIGHT TO A TRIAL BY JURY.

If you have any questions about this warranty, please contact Espar's Warranty Manager at Espar Products Inc., 6099A Vipond Drive, Mississauga ON L5T 2B2. For our Warranty Manual, please visit our website at [www.espar.com](http://www.espar.com).

APPENDIX B  
Sample of Warranty Tag

○

**Warranty Tag**

**To:**      ESPAR PRODUCTS, INC.  
              6099A VIPOND DRIVE  
              MISSISSAUGA, ONTARIO  
              L5T 2B2    CANADA



**From:**            (Dealer Stamp)

Dealer Claim No.: \_\_\_\_\_

Date: \_\_\_\_\_

Espar Part No.: \_\_\_\_\_

Part Description: \_\_\_\_\_

Heater Name: \_\_\_\_\_

Heater Part No.: \_\_\_\_\_

Serial No.: \_\_\_\_\_

Description of Defect: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Espar WE#: \_\_\_\_\_      QSF-62

APPENDIX C  
 Sample of Customs Declaration Form (U.S. only)

### CUSTOMS DECLARATION

SHIPPER: Use ball point pen and press firmly when preparing this form.

<b>F R O M</b>	CONTACT	TELEPHONE NUMBER (    )	<b>S H I P T O</b>	CONTACT	TELEPHONE NUMBER ( 905 ) 870-0980
	NAME			NAME ESPAR PRODUCTS, INC.	
	ADDRESS			ADDRESS 6098A VIKOND DRIVE	
	CITY	STATE		ZIP CODE	CITY
				MISSISSAUGA, ON / CANADA	L5T 2B2

Articles listed are being sold for the amounts shown. P.O. No. \_\_\_\_\_ Terms of Sale \_\_\_\_\_  
 Articles listed are not being sold. Amounts shown are for Customs purposes only.  
 Articles listed are gifts. (Please show name of receiver(s) for each gift enclosed in package.)  
 Other \_\_\_\_\_

<b>S O L D T O</b>	Purchaser name and address if other than consignee.  
--	---

Package Number	Itemized List of Contents	Number of Units	Unit Value	Total Value	Country of Origin (Mfg)	Weight of Package
	<b>CANADIAN GOODS RETURNED</b>				<b>CANADA</b>	

**TOTAL PACKAGES**

**TOTAL VALUE**

**TOTAL WEIGHT**

X \_\_\_\_\_ Signature of Shipper      / /      Date

\*Values shown are U.S. dollars unless otherwise stated. Above articles may be subject to duties and taxes. (Breakage service fees may apply for shipments to Canada.)  
 Parts 1 thru 5 — Customs Copies  
 Part 6 — Shipper's Copy

011230 7-87 (394,175 2-88)

APPENDIX D  
Sample of Espar Shipping Label

<p>From: _____</p> <p>_____</p> <p>_____</p> <p>Attention:    <b>Quality Control Inspector</b>                   <b>Espar Products, Inc.</b>                   <b>6099A Vipond Drive</b>                   <b>Mississauga, Ontario</b>                   <b>L5T 2B2 CANADA</b></p> <p>Espar Reference No. _____</p> <p style="text-align: right;">QSF-92</p>
--

**APPENDIX E**

Sample of "Defective Canadian Goods Returned" Label (U.S. only)



**APPENDIX F**

## Warranty Notice - On Hold / Rejection / Adjustment

Warranty Claim #

Date

Serial #

Model #

The above mentioned claim DOES NOT comply with Espar's existing warranty policy. Please see the reason(s) below for the adjustment or rejection of the claim.

**Warranty Claim is ON HOLD:** Extra information is required by Espar to process the warranty claim. Please submit the following information to Espar's Warranty Department within 10 business days from the date on this form or the claim will be closed permanently.

Installation documentation required to prove applicable warranty period (as warranty was not registered).

Comments:

Further technical information required to support repair.

Comments:

### **Adjustments were made to the submitted Warranty Claim:**

- Labour time requested is higher than the Flat Rate Labour Guide allows.
- Duplicate labour codes.
- Warranty Authorization for excess time, labour or parts was not requested and/or authorized by Espar warranty department.
- Parts returned for inspection were tested and found to be free of defects.

Comments:

### **Rejection of the Warranty Claim:**

- Heater warranty period has expired.
- Parts returned for inspection were tested are found to be not defective.
- Parts claimed are not covered under warranty.
- Inadequate Parts Return (i.e.  Parts were not returned within 30 days of request;  Parts were not tagged;  Shipment was not identified with applicable WE #;  Missing information on the warranty tag.
- Duplicate Warranty Claim submitted.
- Vehicle owner on Warranty Claim is not the original registered owner (warranty is non-transferable).
- Requested information to support warranty claim was not received within 10 business days.
- Unauthorized WA # used for warranty claim that is not approved for this serial number.

Comments: