

## IMPORTANT

1. Always include complete heater model and serial number so that any specification change can be considered for parts shipment. It can save time and expense.
2. Specifications are subject to change without notice.
3. We reserve the right to substitute functional replacements.
4. Order either by Kit or Component Part No.

**REZNOR®**

**Thomas&Betts**

# Functional Replacement Pilots

Parts Form RZ-NA-P-PILOTS

Obsoletes Form 701-B

APPLIES TO:

Service Data

### Quick Reference Replacement Pilot Kit Selection Table

(Refer to Figures 1-12, pages 1-4, for illustrations and component part numbers.)

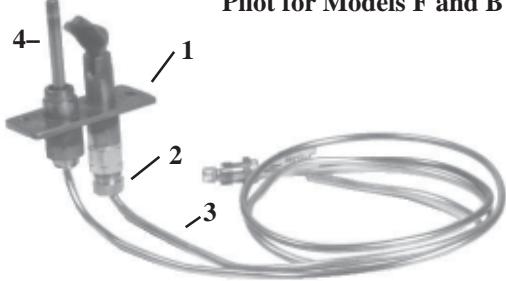
Type of Heater	Model Designation <sup>A</sup> / Sizes	Match Lit Pilot Kits			Spark Pilot Kits <sup>B</sup>		
		Natural	Propane	Figure	Natural	Propane	Figure
Infrared	TR, TR-H 50	—	—	—	110854	110854	2
	TR, TR-H 75-200	—	—	—	110853	110853	2
Unit Heaters	F, B 25-400	110851	110852	1	110853	110854	2
	FE, BE 25-400	—	—	—	110853	110854	2
	UA, XL, XLB, CXL, CXLB 30 - 105	110855	110856	3	110857	110858	4
	XL, XLB, CXL, CXLB 125 - 400	110859	110860	5	110861	110862	6
	EEXL, EEXLB, CEEXL, CEEXLB 30-105	—	—	—	110857	110858	4
	EEXL, EEXLB, CEEXL, CEEXLB 125-400	—	—	—	110861	110862	6
	SCA, SCB prior to Series 6	—	—	—	110861	110862	6
	SCA, SCB Series 6	—	—	—	131457	131458	8
Duct Furnaces and Packages (Also applies to Models with prefix "H")	EEDU, HEEDU Series 6	—	—	—	110853	110854	2
	EEDU, HEEDU prior to Series 6	—	—	—	110861	110862	6
	X, XA, XB, XC, XD, XE, XG, XJ, PAK, DFAH prior to 9/73	110863	110864	8	—	—	—
	X, XA, XB, XC, XD, XE, XG, XJ, PAK, DFAH, CX, CXE, CPAK beginning 9/73	110859	110860	5	110861	110862	6
	SC, SCE Series 6	—	—	—	131457	131458	8
	RX, REB, RXE, RXJ, CRX, CREB, CRXE, RPAK, CRPAK; SC, SCE, SCJ prior to Series 6; RPV, RPVE, RPBE, RPVAK, CRPV, CRPVE, CRPBE, CRPVAK Series 6; RG, CRG, RP, CRP, RGB, CRGB, RPB, CRPB, RGBL, CRGBL, RPBL, CRPBL, SSCBL	—	—	—	110861	110862	6
	RPV, RPBE, RPVE, RPVAK, RPVJ, CRPV, CRPBE, CRPVE, CRPVAK prior to Series 6	—	—	—	110865	110866	9
Heating/ Cooling	RCG 7-1/2, 10 ton	—	—	—	110865	110866	9
	RCG 2 - 5 ton - with vertical pilot	—	—	—	110867	110868	10
	- with horizontal pilot	—	—	—	110861	110862	6
Direct Fired	ADF, ADFH with hot surface ignition	—	—	—	120048	120048	11
	RDF - with spark ignition and flame probe	—	—	—	110869	110869	11
	- with spark ignition and ultraviolet sensor	—	—	—	110918	110918	11
	- with hot surface ignition	—	—	—	120048	120048	11
	DV with hot surface ignition	—	—	—	120048	120048	11
	DFA with hot surface ignition	—	—	—	120048	120048	11

<sup>A</sup> If the replacement pilot changes with the introduction of a Model Series, the Series is indicated in the Selection Table. The Series indicator is on the heater rating plate; it is the suffix number on the Model Size (Ex: SC400-6; "6" is the Series).

<sup>B</sup> Spark pilot kits for all indirect-fired products are for use with Model G60, G65, G67 or G770 ignition controllers only. Pilot kits are not available for other spark ignition systems used on indirect-fired products.

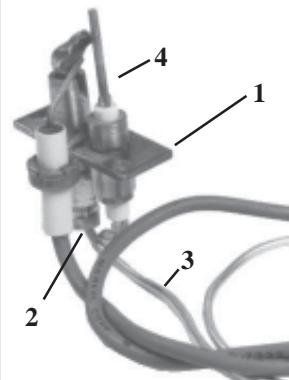
## Pilot Kits and Components

Figure 1 - Vertical Match-Lit Pilot for Models F and B



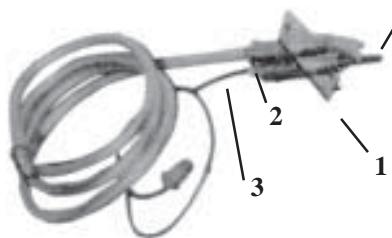
Replacement Pilot Kits		Natural Gas - P/N 110851 Propane Gas - P/N 110852
Code	P/N	Component Description
1	96360	Natural Gas Pilot Assembly with orifice, pilot tubing, and thermocouple; less fitting (Johnson #J994HKA-9731-715)
	96361	Propane Gas Pilot Assembly with orifice, pilot tubing, and thermocouple; less fitting (Johnson #J994HKA-9733-410)
2	103034	Natural Gas Orifice only, Johnson #9731-715 (brass)
	98695	Propane Gas Orifice only, Johnson #9733-410 (black)
3	98698	Pilot Tubing, 1/8" x O.D. x 18" long, Johnson #B10499-995-11
	97572	Compression Fitting, FTG75 (2 required when replacing pilot tubing)
4	84761	Thermocouple, 24", #K15FA-24D

**Figure 2 - Vertical Spark Pilot for Unit Heater Models F/FE/B/BE, Infrared Models TR/TR-H, and Duct Furnace Models EEDU/HEEDU Series 6**



<b>Replacement Pilot Kits</b>	<b>Models F/FE/B/BE</b>	<b>Natural Gas - P/N 110853; Propane Gas - P/N 110854</b>		
	<b>Model TR 50</b>	<b>Natural Gas - P/N 110854; Propane Gas - P/N 110854</b>		
	<b>Models TR 75-200</b>	<b>Natural Gas - P/N 110853; Propane Gas - P/N 110853</b>		
	<b>Models (H)EEDU Series 6</b>	<b>Natural Gas - P/N 110853; Propane Gas - P/N 110854</b>		
<b>Code</b>	<b>P/N</b>	<b>Application</b>	<b>Gas</b>	
1	<b>97534</b>	F/FE/B/BE and (H)EEDU Series 6	Natural	Pilot Assembly with orifice, pilot tubing, and flame rod; less flame sensor lead and fitting (Johnson #J982HKW-9731-715)
		TR 75-200	Natural & Propane	
2	<b>103034</b>	F/FE/B/BE and (H)EEDU Series 6	Natural	Orifice only, Johnson #9731-715 (brass)
		TR 75-200	Natural & Propane	
3	<b>98698</b>	F/FE/B/BE and (H)EEDU Series 6	Propane	Orifice only, Johnson #9733-410 (black)
		TR 50	Natural & Propane	
4	<b>98697</b>	F/FE/B/BE/TR/ (H)EEDU Series 6		Pilot Tubing, 1/8" OD x 18" lg, Johnson #B10499-995-11
		Compression Fitting, FTG75 (2 required when replacing pilot tubing)		
5	<b>97575</b>			Flame Rod, Johnson #Y75AA-10
				Flame Sensor Lead, 21"

**Figure 3 - Horizontal Match Lit Pilot for Models UA, XL, XLB, CXL, CXLB 30 - 105**



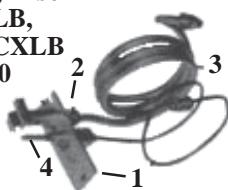
<b>Replacement Pilot Kits</b>	<b>Natural Gas - P/N 110855</b>	
	<b>Propane Gas - P/N 110856</b>	
<b>Code</b>	<b>P/N</b>	
1	40964	Natural Gas Pilot Assembly with orifice; less pilot tubing, less thermocouple (Baso #J999HKA4213)
	40420	Propane Gas Pilot Assembly with orifice; less pilot tubing, less thermocouple (Baso #J999HKA4207)
2	40966	Natural Gas Orifice only, #4213
	40965	Propane Gas Orifice only, #4207
3	5145	Pilot Tubing, 22" long
	9664	Nut with breakaway ferrule (2 required when replacing pilot tubing)
4	84761	Thermocouple, TC2-24"

**Figure 4 - Horizontal Spark Pilot for Models EEXL, EEXLB, CEEXL, CEEEXLB 30 - 105. May also be used on XL, XLB, CXL, CXLB when equipped with G60, G65 or G67 ignition controller (with or without Serial No. Suffix "B")**



<b>Replacement Pilot Kits</b>	<b>Natural Gas - P/N 110857</b>	
	<b>Propane Gas - P/N 110858</b>	
<b>Code</b>	<b>P/N</b>	
1	93971	Natural Gas Pilot Assy with orifice and high tension lead; less pilot tubing, less flame probe, less sensor lead (Baso #J983HKW7715)
	93972	Propane Gas Pilot Assy with orifice and high tension lead; less pilot tubing, less flame probe, less sensor lead (Baso #J983HKW4709)
2	93973	Natural Gas Orifice only, #7715
	93974	Propane Gas Orifice only, #4709
3	5145	Pilot Tubing, 22" long
	9664	Nut with breakaway ferrule (2 required when replacing pilot tubing)
4	50450	Sensor lead, 16" lg
5	43594	Flame probe, Y75BA
Above pilot replaces Baso #J987HKW, natural gas P/N 50449 and propane gas P/N 51330. Also replaces General Controls #26C27113 with 16" high tension lead, natural gas pilot P/N 64463 and propane gas P/N 64464; and General Controls #26C27113 with 24" high tension lead, natural gas pilot P/N 73614 and propane pilot P/N 73615		

**Figure 5 - Horizontal Match Lit Pilot - Starting 9/73 for Models X, XA, XB, XC, XD, XE, XG, XJ, PAK, DFAH, HX, HXE, CX, CXE, HCX, HCXE, CPAK; Also XL, XLB, CXL, CXLB 125-400**



<b>Replacement Pilot Kits</b>	<b>Natural Gas - P/N 110859</b>	
	<b>Propane Gas - P/N 110860</b>	
<b>Code</b>	<b>P/N</b>	
1	17890	Natural Gas Pilot with orifice; less pilot tubing, less thermocouple (Baso #J963HXA6218)
	46136	Propane Gas Pilot with orifice; less pilot tubing, less thermocouple (Baso #J963HXA4211)
2	46392	Natural Gas Orifice only, #6218
	42089	Propane Gas Orifice only, #4211
3	7671	Pilot Tubing, 26" lg for X Series
	9664	Nut with breakaway ferrule (2 required when replacing pilot tubing)
3A	5145	Pilot Tubing, 22" lg for XL, XLB, CXL, CXLB 125-400
	9664	Nut with breakaway ferrule (2 required when replacing pilot tubing)
4	84761	Thermocouple TC2, 24" lg for X Series
4A	84760	Thermocouple TC2, 18" lg for XL, XLB, CXL, CXLB 125-400

This pilot may be used in place of GC #26C23114.

**Figure 6 - Horizontal Spark Pilots for Models**

XL, XLB, CXL, CXLB 125-400

EEXL, EEXLB, CEEXL, CEEEXLB 125-400; EEDU, HEEDU prior to Series 6

Starting 9/73 for X, XA, XB, XC, XD, XE, XG, XJ, PAK, DFAH, CX, CXE, CPAK

RX, REB, RXE, RXJ, CRX, CREB, CRXE, RPAK, CRPAK, CRPVE, CRPBE, CRPVAK

Prior to Series 6; RPV, RPVE, RPBE, RPVAK, CRPV, CRPVE, CRPBE, CRPVAK  
Series 6; RG, CRG, RP, CRP, RGB, CRGB, RPB, CRPB, RGBL, CRGBL, RPBL,  
CRPBL, SSCBL

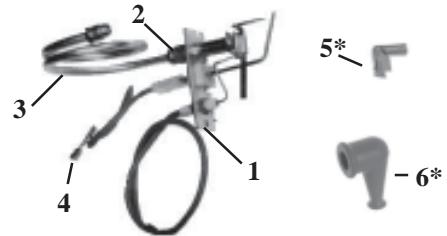
RCG 2 through 5 ton with horizontal pilot

**NOTES:**

- Horizontal spark pilots for ignition systems other than G60, G65, G67 and G770 are no longer available.
- Kits also apply to models listed with the prefix "H"

\*Included in all kits. Used only with the above models equipped with any Model G60 ignition controller, a Model G67BG-2, or a Model G67NG-2. Not used with ignition controller Models G67BG-5 and G770NGC-4. See Instructions on page 4.

This pilot replaces Baso #J991HXW, natural gas P/N 45150, propane P/N 45141; #J994HXW, natural gas P/N 47303, propane P/N 47384. May be used as a substitution for J993HXW and J999HXW.



Replacement Pilot Kits		Natural Gas - P/N 110861 Propane Gas - P/N 110862
Code	P/N	Component Description
1	<b>61145</b>	Natural Gas Pilot Assy with orifice, high tension lead, flame probe; less pilot tubing, less flame sensor lead (Baso #J992HXW7221)
	<b>61146</b>	Propane Gas Pilot Assy with orifice, high tension lead, flame probe; less pilot tubing, less flame sensor lead (Baso #J992HXW9817)
2	<b>63088</b>	Natural Gas Orifice only, #7221
	<b>37801</b>	Propane Gas Orifice only, #4209
3	<b>5145</b>	Pilot Tubing, 22" lg
	<b>9664</b>	Nut with breakaway ferrule (2 required when replacing pilot tubing)
4	<b>50450</b>	Sensor lead, 16" lg
5*	<b>112647</b>	Crimp-on, 90° Rajah terminal connector
6*	<b>112648</b>	90° Boot Terminal Protector

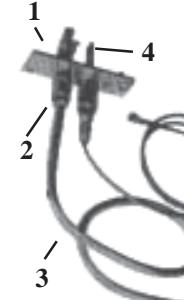
\*See instructions on page 4.

**Figure 7 - Vertical Spark Pilot for Models SC, SCA, SCB, SCE Series 6**



Replacement Pilot Kits		Natural Gas - P/N 131457 Propane Gas - P/N 131458
Code	P/N	Component Description
1	<b>125251</b>	Natural Gas Pilot Assy with orifice, pilot tubing, flame probe; less flame sensor lead and fitting (J/C J981HKW 9731-713)
	<b>125671</b>	Propane Gas Pilot Assy with orifice, pilot tubing, flame probe; less flame sensor lead and fitting (J/C J981HKW 9715-413)
2	<b>93973</b>	Natural Gas Orifice only, #9731-713 (brass)
	<b>126024</b>	Propane Gas Orifice only, #9715-413 (black)
3	<b>98698</b>	Pilot Tubing, 1/8" OD x 18" lg (J/C #B10499-995-11)
	<b>97572</b>	Compression Fitting FTG75 (2 required when replacing pilot tubing)
4	<b>126104</b>	Flame probe, J/C Y75AA-2
5	<b>126101</b>	Auxiliary flame probe with bracket, J/C Y75 GB-1
6	<b>125401</b>	(2) Sensor lead assy, 18 ga. x 14", 150°C

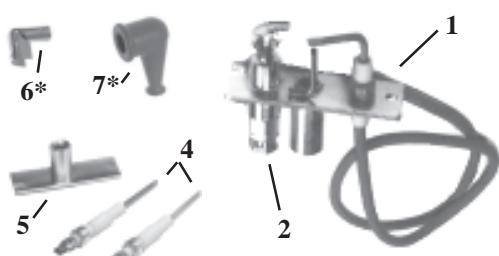
**Figure 8 - Vertical Match Lit Pilot for Models X, XA, XB, XC, XD, XE, XG, XJ, PAK, DFAH prior to 9/73**



**Figure 8 - Vertical Match Lit Pilot for Models X, XA, XB, XC, XD, XE, XG, XJ, PAK, DFAH prior to 9/73**

Replacement Pilot Kits		Natural Gas - P/N 110863 Propane Gas - P/N 110864
Code	P/N	Component Description
1	<b>9661</b>	Natural Gas Pilot Assy with orifice; less pilot tubing, less thermocouple (Baso J915HHA6221)
	<b>30126</b>	Propane Gas Pilot Assy with orifice; less pilot tubing, less thermocouple (Baso J915HHA4211)
2	<b>44048</b>	Natural Gas Orifice only, #6221
	<b>42089</b>	Propane Gas Orifice only, #4211
3	<b>7671</b>	Pilot Tubing, 26" lg
	<b>9664</b>	Nut with breakaway ferrule (2 required when replacing pilot tubing)
4	<b>84761</b>	Thermocouple, TC2, 24" lg

**Figure 9 - Vertical Spark Pilot for Models RPV, RPBE, RPVE, RPVJ, RPVAK, HRPV, HRPBE, HRPVE, CRPV, HCRPV, CRPBE, HCRPBE, CRPVE, HCRPVE; CRPVAK prior to Series 6 and RCG 7-12/, 10 ton equipped with G60 or G67 ignition Controller**

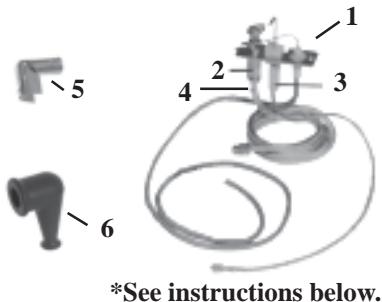


\*See Instructions, page 4.

**NOTE:** Vertical spark pilots for ignition systems other than G60 and G67 are no longer available.

Replacement Pilot Kits		Natural Gas - P/N 110865 Propane Gas - P/N 110866
Code	P/N	Component Description
1	<b>41775</b>	Natural Gas Pilot Assy with orifice, high tension lead; less pilot tubing, less flame probe, less sensor lead (Baso #J999HHW6221)
	<b>44673</b>	Propane Gas Pilot Assy with orifice, high tension lead; less pilot tubing, less flame probe, less sensor lead (Baso #J999HHW4209)
2	<b>44048</b>	Natural Gas Orifice only, #6221
	<b>37801</b>	Propane Gas Orifice only, #4209
3	<b>92848</b>	Sensor lead assembly, 16" lg and 21" lg wires (not illustrated)
4	<b>43594</b>	(2) Flame probe Y75BA-3
5	<b>44678</b>	Bracket Y59DD-1
6*	<b>112647</b>	Crimp-on, 90° Rajah terminal connector
7*	<b>112648</b>	90° Boot Terminal Protector
8	<b>7671</b>	Pilot tubing 26" lg (not illustrated)
	<b>9664</b>	Nut with breakaway ferrule (2 required when replacing pilot tubing)

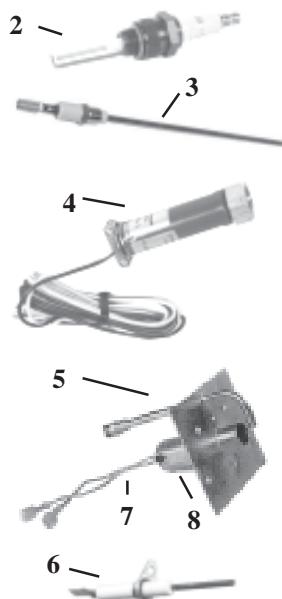
**Figure 10 - Vertical Spark Pilot for Models RCG 2 - 5 ton with Vertical Pilot**



\*See instructions below.

Replacement Pilot Kits		Natural Gas - P/N 110867 Propane Gas - P/N 110868
Code	P/N	Component Description
1	<b>47484</b>	Natural Gas Pilot with orifice, high tension lead and built-in flame probe; less pilot tubing, less sensor lead (Baso #J993HHW6221)
	<b>47485</b>	Propane Gas Pilot with orifice, high tension lead and built-in flame probe; less pilot tubing, less sensor lead (Baso #J993HHW4211)
2	<b>44048</b>	Natural Gas Orifice only, #6221
	<b>42089</b>	Propane Gas Orifice only, #4211
3	<b>44183</b>	Sensor lead, 38" lg
	<b>7671</b>	Pilot tubing 26" lg
4	<b>9664</b>	Nut with breakaway ferrule (2 required when replacing pilot tubing)
	<b>112647</b>	Crimp-on, 90° Rajah terminal connector
5*	<b>112648</b>	90° Boot Terminal Protector

**Figure 11 - Pilot Systems used on Direct-Fired Models RDF/ADF/ADFH/DFA/DV**



\*P/N 135435 is a replacement flame sensor only kit for ADF/ADFH units manufactured prior to 11/94.

Replacement Pilot Kits		w/Flame Probe - P/N 110869 (Includes Codes 1, 2, 3)	RDF with spark pilot
		w/Ultraviolet Sensor - P/N 110918 (Includes Codes 1, 2, 4)	RDF with spark pilot
		w/Hot Surface Ignition - P/N 120048 (Includes Codes 5, 6, 7, and 8)	ADF/DFA/ADF/DV with hot surface ignition
Code	P/N	Component Description	Applies to
		Pilot Supply Connection including: (1) brass elbow, P/N 93388; (3) connectors, P/N 95188; (1) long nut, P/N 95189	RDF Models with a spark pilot and either a probe or ultraviolet flame sensor
	<b>87936</b>	Spark Plug, 27750-1-31, Maxon #18075	
	<b>87937</b>	Flame Probe, Auburn AA 67-7892-1 - Standard on units with date code prior to ANI (9/88)	
	<b>89411</b>	Ultraviolet Minipeeper, #C7027A - Standard on units with date code from ANI (9/88) through A VB (2/96) - optional on prior units	
	<b>122840</b>	Pilot Plate and Tubing Assembly	ADF/ADFH*; DFA; DV; and RDF with hot surface ignition
	<b>134706*</b>	Flame Sensor, J/C #Y75M K-1D	
	<b>121865</b>	Ignitor, Norton #401E	
	<b>121730</b>	Pilot Bushing	

**Hot Surface Ignition Kits** below include all components needed to change RDF units from a spark pilot system with either a flame probe or ultraviolet sensor to hot surface ignition

- for an RDF unit with a 200VA Transformer - P/N 146268
- for a 115V RDF unit with an 80VA transformer - P/N 146318
- for a 208V RDF unit with an 80VA transformer - P/N 146319
- for a 240V, 480V, or 575V RDF unit with an 80VA transformer - P/N 146320

**Note: Model, Serial No., and Wiring Diagram No. MUST be provided when ordering these kits.**

### Instructions for connecting ignitor lead on replacement spark pilots to Model G60 and G67 ignition controllers (applies to Pilot Kits in Figures 6, 9, and 10):

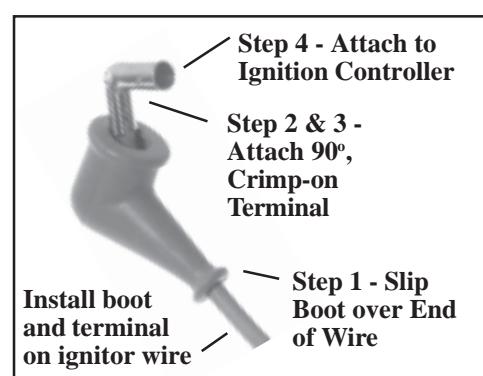
**Crimp-on, 90° Rajah Terminal Connector, P/N 112647**



**Protective Boot, P/N 112648**

Effective with replacement pilots purchased 9/91, these parts are required (in the kit or separately) when the replacement pilot is for heater Models listed in Figures 6, 9 and 10 equipped with a Model G60 or G67BG-NG-2 ignition controller. (Note: These parts are not required when the ignition controller is a Model G67BG-5 or G770NGC-4.)

1. Identify the ignitor wire attached to the pilot electrode. Slip the 90° protective boot on to the wire, as illustrated →.
2. On the "open" leg of the 90° crimp-on terminal (P/N 112647), locate a flat, triangular spike tab punched in the metal. With the tip of a small, straight screwdriver, force the spike tab toward the inside of the connector. Straighten the tab to a vertical position.
3. Insert the ignitor wire into that same connector leg (just to the 90° bend) and push the wire onto the protruding spike tab, making sure that the tab penetrates the insulation. (Do not strip the ignitor wire.) Using a crimping tool or pliers, squeeze the sides of the terminal to form a "C" shape. The ignitor wire should now be firmly held by the terminal.



4. Slide the protective boot over the terminal. Holding the boot, attach the 90° Rajah terminal to the ignitor lead Rajah connector on the Model G60 or G67BG/NG-2 ignition controller.