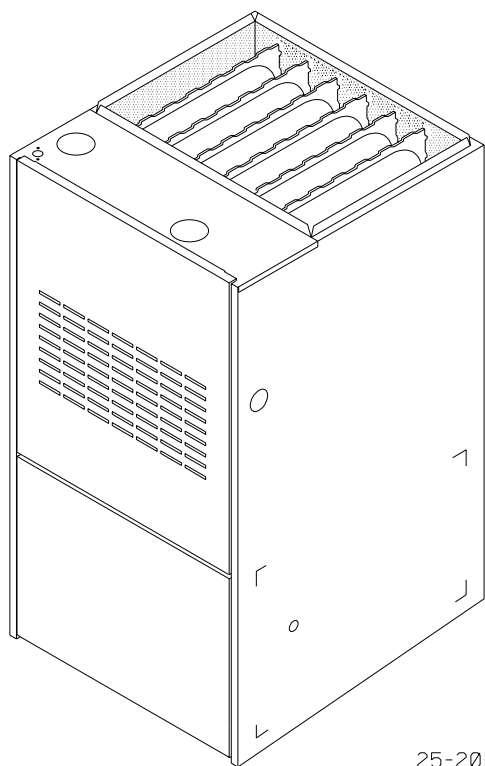


Technical Support Manual



25-20-66

Models

NTG9050FFA2/GNM050N12A2

NTG9075FGA2/GNM075N14A2

NTG9100FHA2/GNM100N16A2

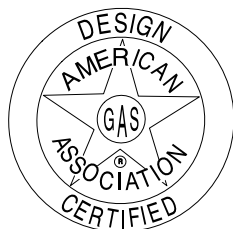
NTG9125FKA2/GNM125N20A2

Manufactured by:

International Comfort Products Corporation (USA)

Lewisburg, TN USA 37091

Condensing Gas Furnaces



Design Certified
by A.G.A.



Save This Manual For Future Reference

Manufacturers Number (Mfr No -See Rating Plate)				NTG9050FF/GNM050N12A																																											
Specifications				Circulation Air Blower Data																																											
GENERAL	Gas Type	Nat	LP	Type & Size Motor Amps/RPM Motor Type/ H.P Cap. MFD/Volts	10-8 4.6/1050 PSC/1/3 5/370	Filt Type Filt Size (") Min. Cool Cap. (Tons) Max. Cool Cap. (Tons)	Washable 16x25x1 1.5 3																																								
	Input (Btuh) Std/Alt.	50,000	50,000																																												
	Output (Btuh) Std/Alt.	45,500	45,500																																												
	Temp. Rise (°F)	40-70	40-70																																												
	Electrical (Volts/Hz/FLA)	115/60/5.3	115/60/5.3																																												
	Transformer Size (VA)	40	40																																												
	T stat Heat Anticipator	.30	.30																																												
GAS & IGNITION	Gas Valve	HW SV9500	HW SV9500	Air Delivery in Cubic Feet per Minute (C.F.M.) (Furnace Rated @0.5" WC ESP)																																											
	Regulation Type	SNAP	SNAP																																												
	Manifold Press. (" WC)	3.5																																													
	Std. Main Orifices (No/Size)	2/#42	2/#54	External Static Pressure Inches of W.C. <table><tr><th>TAP</th><th>LOW</th><th>MED L</th><th>MED H</th><th>HIGH</th></tr><tr><td>.10</td><td>718</td><td>840</td><td>1109</td><td>1473</td></tr><tr><td>.20</td><td>719</td><td>838</td><td>1094</td><td>1431</td></tr><tr><td>.30</td><td>714</td><td>837</td><td>1086</td><td>1396</td></tr><tr><td>.40</td><td>692</td><td>819</td><td>1063</td><td>1349</td></tr><tr><td>.50</td><td>660</td><td>791</td><td>1027</td><td>1291</td></tr><tr><td>.60</td><td>615</td><td>752</td><td>986</td><td>1222</td></tr><tr><td>.70</td><td>563</td><td>683</td><td>934</td><td>1141</td></tr></table>				TAP	LOW	MED L	MED H	HIGH	.10	718	840	1109	1473	.20	719	838	1094	1431	.30	714	837	1086	1396	.40	692	819	1063	1349	.50	660	791	1027	1291	.60	615	752	986	1222	.70	563	683	934	1141
TAP	LOW	MED L	MED H					HIGH																																							
.10	718	840	1109					1473																																							
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.70	563	683	934	1141																																											
	Pilot Orifice Size	.018	.011																																												
	Ignition Type/Series	HW HSP	HW HSP																																												
	Lock-Out Time	---	---																																												
COMBUSTION	Flue Outlet Size (Inches)	2	2																																												
	Std. Outlet Temp (°F)	<140	<140																																												
	Comb. Blower (MFD/Volts)	4/250	4/250																																												
	Std. Pressures (Inch's of WC)	@Blower	@Burner Box	Differential																																											
	5' No Elbows	-2.30	-.10	-2.4																																											
	40' +5-90° DWV Elbows	-2.20	-.20	-2.0																																											
LIMITS & CONTROLS	Rollout Switch	250	250	Air Delivery in Liters Per Second (L/S) (Furnace Rated @0.5" WC ESP)																																											
	Limit Control Setting (°F)	220	220																																												
	Auxiliary Limit (°F)	130	130																																												
	Fan Control (Type)	HW ST9120	HW ST9120																																												
	Fan Control On	30/60	30/60																																												
	(Timed -Secs) Off	60,100,140,180	60,100,140,180																																												
	Std. Pressure Sw. (Part No)	1008819	1008819																																												
	Press Differential (Close)	1.62	1.62																																												
	Press Differential (Open)	1.38	1.38																																												
	High Alt. Press. Sw (Part No)	1008817	1008817																																												
	Press Differential (Close)	1.40	1.40																																												
	Press Differential (Open)	1.18	1.18																																												

Manufacturers Number (Mfr No -See Rating Plate)					NTG9075FG/GNM075N12A							
Specifications					Circulation Air Blower Data							
GENERAL	Gas Type	Nat	LP	Type & Size Motor Amps/RPM Motor Type/ H.P. Cap. MFD/Volts	10-8 6.8/1050 PSC/1/2 7.5/370	Filt Type	Washable					
	Input (Btuh) Std/Alt.	75,000	75,000			Filt Size (")	16x25x1					
	Output (Btuh) Std/Alt.	67,500	67,500			Min. Cool						
	Temp. Rise (°F)	40-70	40-70			Cap. (Tons)	2					
GAS & IGNITION	Electrical (Volts/Hz/FLA)	115/60/7.5	115/60/7.5	Air Delivery in Cubic Feet per Minute (C.F.M.) (Furnace Rated @0.5" WC ESP)	External Static Pressure Inches of W.C.	TAP	LOW	MED L	MED H	HIGH		
	Transformer Size (VA)	40	40			.10	778	984	1263	1576		
	T'stat Heat Anticipator	.30	.30			.20	786	1003	1249	1532		
						.30	790	1003	1244	1489		
COMBUSTION	Flue Outlet Size (Inches)	2 2 1/2, 3	2 2 1/2, 3	Air Delivery in Liters Per Second (L/S) (Furnace Rated @0.5" WC ESP)		External Static Pressure Inches of W.C.	.40	788	1001	1215	1432	
	Std. Outlet Temp (°F)	<140	<140				.50	781	982	1186	1371	
	Comb. Blower (MFD/Volts)	4/250	4/250				.60	765	962	1146	1308	
	Std. Pressures (Inch's of WC)	@Blower	@Burner Box				Differential	.70	743	923	1094	1229
LIMITS & CONTROLS	5' No Elbows	-2.3	-.10	-2.2			External Static Pressure Inches of W.C.	.10	367	464	596	744
	40' +5-90° DWV Elbows	-2.05	-.15	-1.9				.20	371	473	589	723
	Rollout Switch(°F)	200	200	.30	373			473	587	703		
	Limit Control Setting (°F)	190	190	.40	372			472	573	676		
	Auxiliary Limit (°F)	130	130	.50	369			463	560	647		
	Fan Control (Type)	HW ST9120	HW ST9120	.60	361			454	541	617		
	Fan Control On	60	60	.70	351	436		516	580			
	Fan Control Off	60,100,140,180	60,100,140,180									
	Std. Pressure Sw. (Part No)	1008819	1008819									
	Press Differential (Close)	1.62	1.62									
Press Differential (Open)	1.38	1.38										
LIMITS & CONTROLS	High Alt. Press. Sw (Part No)	1008817	1008817									
	Press Differential (Close)	1.40	1.40									
	Press Differential (Open)	1.18	1.18									

Manufacturers Number (Mfr No -See Rating Plate)					NTG9100FH/GNM100N16A			
Specifications					Circulation Air Blower Data			
GENERAL	Gas Type	Nat	LP		Type & Size	10-10	Filt Type	Washable
	Input (Btuh) Std/Alt.	100,000	100,000		Motor Amps/RPM	8.5/1050	Filt Size (")	16x25x1
GAS & IGNITION	Output (Btuh) Std/Alt.	90,000	90,000		Motor Type/ H.P	PSC/1/2	Min. Cool	
	Temp. Rise (°F)	40-70	40-70		Cap. MFD/Volts	10/370	Cap. (Tons)	2
COMBUSTION	Electrical (Volts/Hz/FLA)	115/60/9.2	115/60/9.2				Max. Cool	4
	Transformer Size (VA)	40	40				Cap. (Tons)	
LIMITS & CONTROLS	T-stat Heat Anticipator	.30	.30					
	Gas Valve	HW SV9500	HW SV9500					
GAS & IGNITION	Regulation Type	SNAP	SNAP					
	Manifold Press. (" WC)	3.5	10.0					
COMBUSTION	Std. Main Orifices (No/Size)	4/#42	4/#54					
	Pilot Orifice Size	.018	.011					
LIMITS & CONTROLS	Ignition Type/Series	HW HSP	HW HSP					
	Lock-Out Time	---	---					
COMBUSTION	Flue Outlet Size (Inches)	2,2 ¹ / ₂ ,3	2,2 ¹ / ₂ ,3					
	Std. Outlet Temp (°F)	<140	<140					
LIMITS & CONTROLS	Comb. Blower (MFD/Volts)	4/250	4/250					
	Std. Pressures (Inch's of WC)	@Blower	@Burner Box	Differential				
GAS & IGNITION	5' No Elbows	-2.40	-.10	-2.30				
	40' +5-90° DWV Elbows	-1.98	-.20	-1.78				
LIMITS & CONTROLS	Rollout Switch	200	200					
	Limit Control Setting (°F)	180	180					
GAS & IGNITION	Auxiliary Limit (°F)	130	130					
	Fan Control (Type)	HW ST9120	HW ST9120					
LIMITS & CONTROLS	Fan Control On	30/60	30/60					
	(Timed-Secs) Off	60,100,140,180	60,100,140,180					
COMBUSTION	Std. Pressure Sw. (Part No)	1008819	1008819					
	Press Differential (Close)	1.62	1.62					
LIMITS & CONTROLS	Press Differential (Open)	1.38	1.38					
	High Alt. Press. Sw (Part No)	1008817	1008817					
GAS & IGNITION	Press Differential (Close)	1.40	1.40					
	Press Differential (Open)	1.18	1.18					

Air Delivery in Cubic Feet per Minute (C.F.M.) (Furnace Rated @0.5" WC ESP)

External Static Pressure Inches of W.C.	TAP	LOW	MED L	MED H	HIGH
.10	954	1312	1698	1925	
.20	950	1292	1645	1853	
.30	946	1265	1596	1780	
.40	915	1231	1530	1708	
.50	878	1175	1455	1638	
.60	830	1118	1362	1546	
.70	778	1020	1241	1435	

Air Delivery in Liters Per Second (L/S) (Furnace Rated @0.5" WC ESP)

External Static Pressure Inches of W.C.	TAP	LOW	MED L	MED H	HIGH
.10	450	619	801	908	
.20	448	610	776	874	
.30	446	597	753	840	
.40	432	581	722	806	
.50	414	555	687	773	
.60	392	528	643	730	
.70	367	481	586	677	

Manufacturers Number (Mfr No -See Rating Plate)					NTG9125FK/GNM125N20A			
Specifications					Circulation Air Blower Data			
GENERAL	Gas Type	Nat	LP		Type & Size	11.8-10.6	Filt Type	Washable
	Input (Btuh) Std/Alt.	125,000	125,000		Motor Amps/RPM	9.8/900	Filt Size (")	(2)16x25
GAS & IGNITION	Output (Btuh) Std/Alt.	113,125	113,125		Motor Type/ H.P.	PSC/3/4	Min. Cool	
	Temp. Rise (°F)	45-75	45-75		Cap. MFD/Volts	10/370	Cap. (Tons)	3.5
COMBUSTION	Electrical (Volts/Hz/FLA)	115/60/10.5	115/60/12.0				Max. Cool	5
	Transformer Size (VA)	40	40				Cap. (Tons)	
LIMITS & CONTROLS	T-stat Heat Anticipator	.30	.30					
	Gas Valve	HW SV9500	HW SV9500					
GAS & IGNITION	Regulation Type	SNAP	SNAP					
	Manifold Press. (" WC)	3.5	10.0					
COMBUSTION	Std. Main Orifices (No/Size)	5/#42	5/#54					
	Pilot Orifice Size	.018	.011					
LIMITS & CONTROLS	Ignition Type/Series	HSP	HSP					
	Lock-Out Time	---	---					
COMBUSTION	Flue Outlet Size (Inches)	3	3					
	Std. Outlet Temp (°F)	<140	<140					
LIMITS & CONTROLS	Comb. Blower (MFD/Volts)	4/250	4/250					
	Std. Pressures (Inch's of WC)	@Blower	@Burner Box	Differential				
GAS & IGNITION	5' No Elbows	-2.40	-.17	-2.23				
	40' +5-90° DWV Elbows	-2.16	-.20	-1.86				
LIMITS & CONTROLS	Rollout Switch	200	200					
	Limit Control Setting (°F)	190	190					
GAS & IGNITION	Auxiliary Limit (°F)	130	130					
	Fan Control (Type)	HW ST9120	HW ST9120					
LIMITS & CONTROLS	Fan Control On	30/60	30/60					
	(Timed-Secs) Off	60,100,140,180	60,100,140,180					
COMBUSTION	Std. Pressure Sw. (Part No)	1008819	1008819					
	Press Differential (Close)	1.62	1.62					
LIMITS & CONTROLS	Press Differential (Open)	1.38	1.38					
	High Alt. Press. Sw (Part No)	1008817	1008817					
GAS & IGNITION	Press Differential (Close)	1.40	1.40					
	Press Differential (Open)	1.18	1.18					

Air Delivery in Cubic Feet per Minute (C.F.M.) (Furnace Rated @0.5" WC ESP)

External Static Pressure Inches of W.C.	TAP	LOW	MED L	MED H	HIGH
.10	1463	1650	1879	2214	
.20	1429	1635	1859	2154	
.30	1417	1614	1838	2152	
.40	1389	1579	1806	2106	
.50	1364	1556	1773	2049	
.60	1339	1513	1725	1981	
.70	1299	1470	1668	1903	

Air Delivery in Liters Per Second (L/S) (Furnace Rated @0.5" WC ESP)

External Static Pressure Inches of W.C.	TAP	LOW	MED L	MED H	HIGH
.10	690	779	887	1045	
.20	674	772	877	1017	
.30	669	762	867	1016	
.40	656	745	852	994	
.50	644	734	837	967	
.60	632	714	814	935	
.70	613	694	787	898	

FAN CONTROL MODULE

COOL ON DELAY: 30 SEC.
COOL OFF DELAY: 30 SEC.

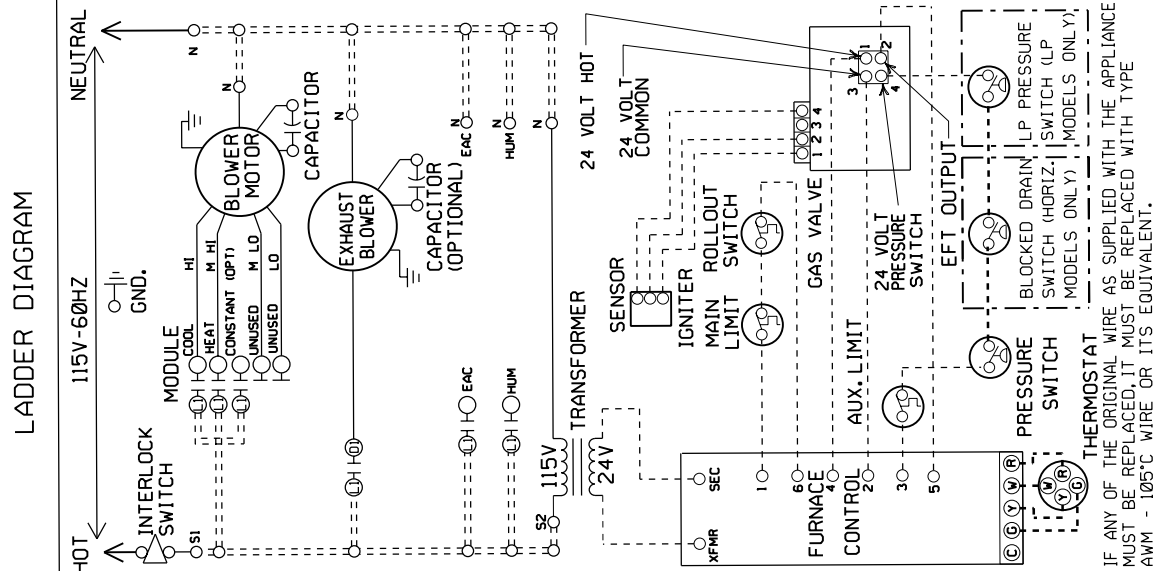
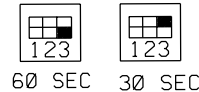
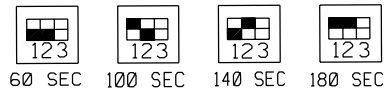
HEAT OFF DELAY

HEAT ON DELAY

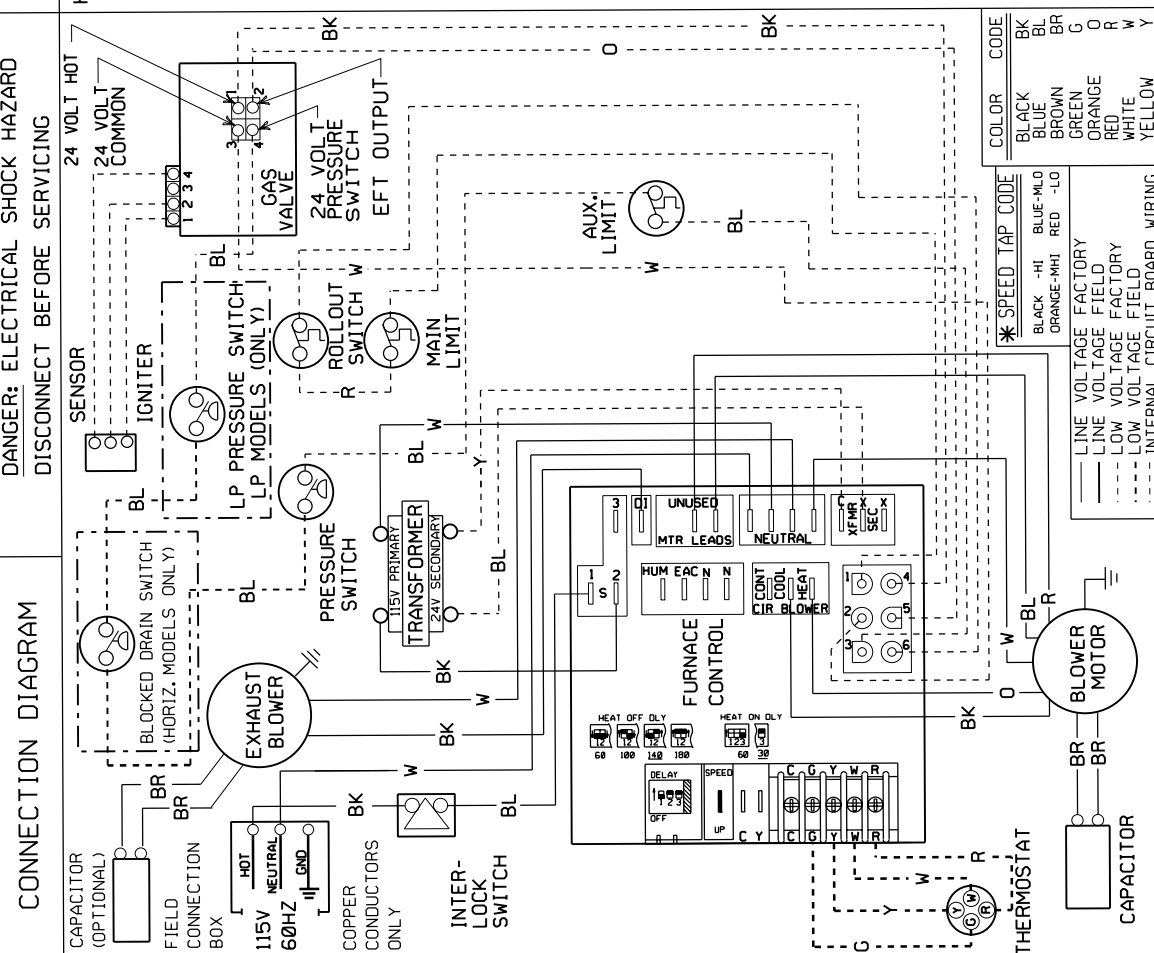
EAC + HUM: 0.8 A MAX. COMBINED

FIELD TWINNING CONNECTIONS ARE ON EDGE
OF CIRCUIT BOARD. USE TWINNING KIT
NAH003WK01. MATCH Z1 AND Z2 CONNECTIONS
TO SAME POINTS ON 2ND FURNACE CONTROL.
ADD LOW VOLTAGE WIRING AND RELAY PER
TWINNING KIT INSTRUCTION MANUAL.

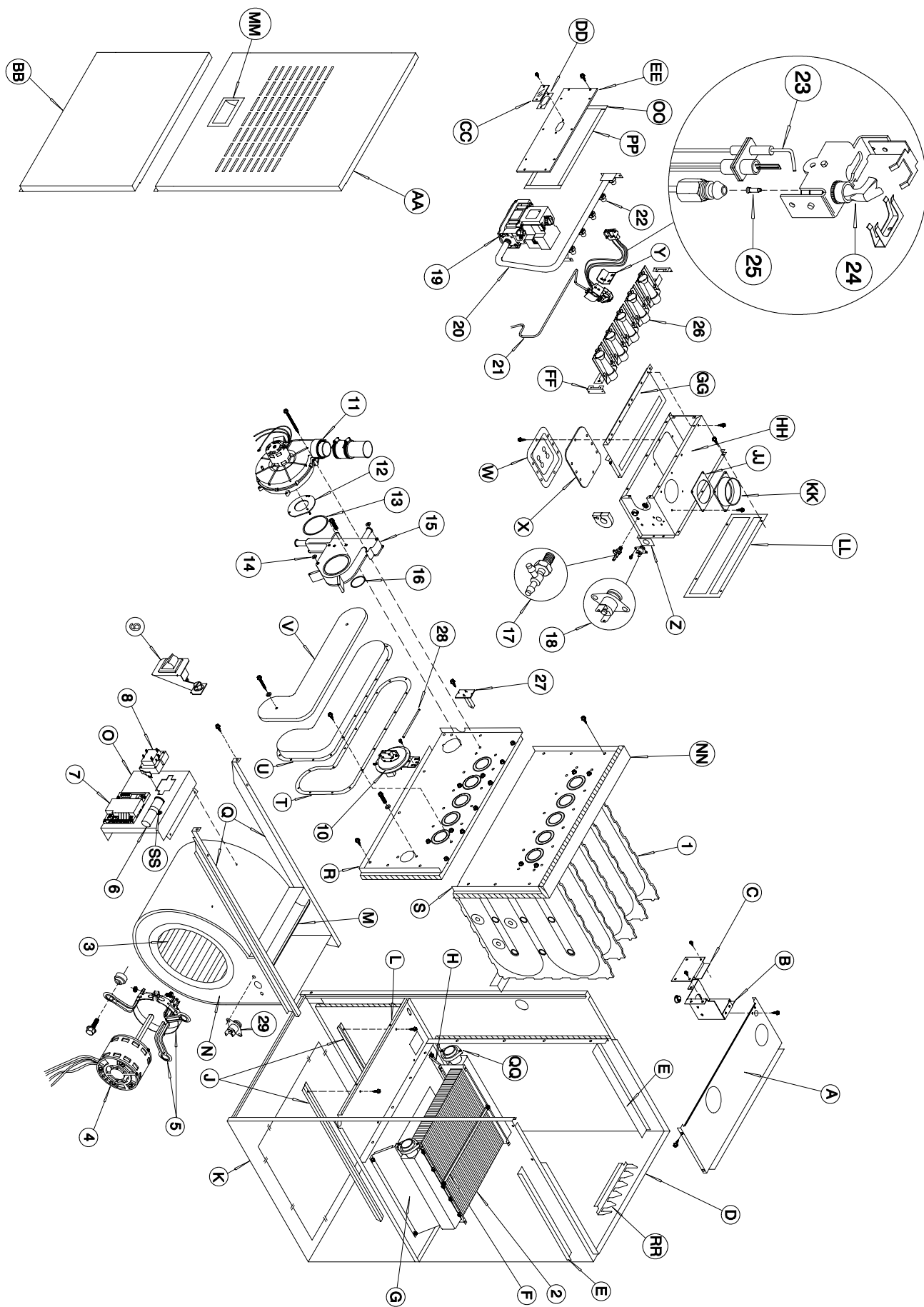
1011070



⑥ THERMOSTAT -----
IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE APPLIANCE
MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE
AWM - 105°C WIRE OR ITS EQUIVALENT.



SEE TABLE IN MANUAL FOR C.F.M. VS. E.S.P. TO DETERMINE PROPER HEATING AND COOLING SPEED CONNECTIONS.



Replacement Parts - NTG9/GNM

Models - NTG9050FFA2, NTG9075FGA2, NTG9100FHA2, NTG9125FKA2 (Natural Gas)
GNM050N12A2, GNM 075N12A2, GNM100N16A2, GNM125N20A2 (Natural Gas)

Replacement part supplied will be current active part. For parts not listed, consult place of purchase.

Key No.	Description Functional	Part Number	050	075	100	125
1	Heat Exchanger	1008876	1	-	-	-
		1008877	-	1	-	-
		1008878	-	-	1	-
		1008879	-	-	-	1
2	Coil Condenser	1010495	1	1	-	-
		1010496	-	-	1	-
		1010497	-	-	-	1
3	Wheel Blower	600587	1	1	-	-
		601210	-	-	1	-
		1009147	-	-	-	1
4	Motor Blower	1009054	1	-	-	-
		1009053	-	1	-	-
		1009052	-	-	1	-
		1008619	-	-	-	1
5	Mount Motor Kit	609227	1	1	1	-
		522020024	-	-	-	1
6	Capacitor 5/370V	1094954	1	-	-	-
	10/370V	1094956	-	-	1	1
	7.5/370V	1094239	-	1	-	-
7	Control, Fan Timer	1009838	1	1	1	1
8	Transformer	1011103	1	1	1	1
9	Switch Door Interlock	1010886	1	1	1	1
10	Switch Pressure	1010895	1	1	1	1
11	Blower Exhaust	1010527	1	1	1	1
12	Restrictor Exh Blwr	1008696	1	1	-	-
		1009386	-	-	1	-
		1008699	-	-	-	1
13	O Ring (Exh Blwr)	1009035	1	1	1	1
14	Washer Exh Blwr	1009037	2	2	2	2
15	Transition Asy	1010537	1	1	1	1
16	O Ring (Header Box)	1009036	1	1	1	1
17	Pressure Tap	1005606	1	1	1	1
18	Switch Limit Rollout	1005548	1	-	-	-
		1010575	-	1	1	1
19	Valve Gas Nat & LP	1011024	1	1	1	1
20	Manifold Gas	1008733	1	-	-	-
		1008734	-	1	-	-
		1008735	-	-	1	-
		1008736	-	-	-	1
21	Tube Pilot	64930	1	1	1	1
22	Orifice Burner Nat #42	1004143	2	3	4	5
	LP #54	*1004142	2	3	4	5
	High Altitude Orifice Nat #44	1065253	2	3	4	5
	Nat #45	1065121	2	3	4	5
	LP #55	*1065255	2	3	4	5
	LP #56	*1065167	2	3	4	5
23	Igniter/Sensor with Clip	1009524	1	1	1	1
24	Pilot Burner Assembly Nat & LP	1149856	1	1	1	1
25	Orifice Pilot Nat .020	1160403	1	1	1	1
	LP .011	1009136	-	-	-	-
26	Burner Asy	1008723	1	-	-	-
		1008724	-	1	-	-
		1008725	-	-	1	-
		1008726	-	-	-	1
27	Switch Limit (Main)	1010647	1	-	-	-
		34332903	-	1	-	-
		1320547	-	-	1	-
		34332903	-	-	-	1
28	Tube Sensor	1006298	1	1	1	1
29	Switch, Limit Auxiliary	1000735	1	1	1	1

* Only used when furnace has been converted to LP Gas

Key No.	Description Non-Functional	Part Number	050	075	100	125
A	Panel Top	1010607	1	1	-	-
		1010608	-	-	1	-
		1010609	-	-	-	1
B	Box Field Connect	1010359	1	1	1	1
C	Cover Field Connect	1010360	1	1	1	1
D	Casing	1010827	1	1	-	-
		1010828	-	-	1	-
		1010829	-	-	-	1
E	Baffle Circ Air	707010031	2	2	2	2
F	Bracket Coil	1008743	1	1	-	-
		1008745	-	-	1	-
		1008747	-	-	-	1
G	Bracket Mount Coil (RH)	1008694	1	1	1	1
H	Bracket Mount Coil (LH)	1008693	1	1	1	1
J	Rail Blower Slide	57059	2	2	2	2
K	Casing Base	1010113	1	1	-	-
		1010114	-	-	1	-
		1010115	-	-	-	1
L	Blower Partition	1010815	1	1	-	-
		1010816	-	-	1	-
		1010817	-	-	-	1
M	Panel Cutoff Blwr	721020013	1	1	-	-
		721020008	-	-	1	1
N	Housing Blower	1010475	1	1	-	-
		1010479	-	-	1	-
		1010322	-	-	-	1
O	Bracket Ctrl Board	1011178	1	1	1	1
Q	Hanger Blower	1010690	2	2	2	2
R	Partition Frt Bot	1011060	1	-	-	-
		1011061	-	1	-	-
		1011062	-	-	1	-
		1011063	-	-	-	1
S	Partition Frt Top	1008657	1	-	-	-
		1008658	-	1	-	-
		1008659	-	-	1	-
		1008660	-	-	-	1
T	Gasket Collector Box	1008676	1	1	-	-
		1008677	-	-	1	-
		1008678	-	-	-	1
U	Collector Box	1008670	1	1	-	-
		1008671	-	-	1	-
		1008672	-	-	-	1
V	Board Insul Coll Box	1008682	1	1	-	-
		1008683	-	-	1	-
		1008684	-	-	-	1
W	Cover Diaphragm	1068036	1	1	1	1
X	Diaphragm Silicone	1008763	1	1	1	1
Y	Bracket Pilot	1010901	1	1	1	1
Z	Gasket Limit Switch	1008778	1	1	1	1
AA	Door Louvered	1010184	1	1	-	-
		1010185	-	-	1	-
		1010186	-	-	-	1
BB	Door Blower	1010190	1	1	-	-
		1010192	-	-	1	-
		1010257	-	-	-	1
CC	Viewport Cover Lexan	2480678	1	1	1	1
DD	Gasket Viewport	1093666	1	1	1	1
EE	Cover Burner Box	1008748	1	1	-	-
		1008749	-	-	1	-
		1008750	-	-	-	1
FF	Bracket Burner Box	1008722	2	2	2	2
GG	Baffle Burner Box	1008709	1	1	-	-
		1008710	-	-	1	-
		1008711	-	-	-	1

Replacement Parts - NTG9/GNM

Models - NTG9050FFA2, NTG9075FGA2, NTG9100FHA2, NTG9125FKA2 (Natural Gas)
GNM050N12A2, GNM 075N12A2, GNM100N16A2, GNM125N20A2 (Natural Gas)

Replacement part supplied will be current active part. For parts not listed, consult place of purchase.

Key No.	Description Non-Functional	Part Number	050	075	100	125
HH	Burner Box Asy	1010381	1	1	-	-
		1010382	-	-	1	-
		1010383	-	-	-	1
JJ	Gasket Air Intake	1008746	1	1	1	1
KK	Coupling Air Intake	1008744	1	1	1	1
LL	Gasket Burner Box	1008759	1	1	-	-
		1008760	-	-	1	-
		1008761	-	-	-	1
MM	Door Handle	1010073	1	1	1	1
NN	Gasket, Heat Exchanger	2480904	2	-	-	-
		2480905	-	2	-	-
		2480906	-	-	2	-
		2480907	-	-	-	2
OO	Seal, Burner Box Sides	1008755	2	2	2	2
PP	Seal, Burner Box	1008762	2	2	-	-
		1009243	-	-	2	-
		1009244	-	-	-	2
QQ	Gasket, Header Box	1010510	1	1	1	1
RR	Support, Heat Exchanger	1010092	1	-	-	-
		1010093	-	1	-	-
		1010098	-	-	1	-
		1010099	-	-	-	1
SS	Clamp, Capacitor	1095020	1	1	1	1
)(	PART NOT ILLUSTRATED					
)(	Wire Harness	1011068	1	1	1	1
)(	Pin Plastic Clip	2344276	3	3	3	3
)(	Flexible Neoprene Coupling	1002522	2	2	2	2
)(	Clamp Hose	1002793	4	4	4	4
)(	Screen 2"	1007339	2	2	2	2
)(	Screen 3"	1007340	2	2	2	2
)(	Elbow Union	2971503	1	1	1	1
)(	Manual Tech	440 031103 00	1	1	1	1
)(	Manual Install	440 011102 00	1	1	1	1
)(	Manual Homeowners	441 021001 00	1	1	1	1
)(	Flue Pipe, ABS 2" x 22"	1009527	1	1	1	1
)(	Grommet, Vinyl	1009535	1	1	1	1
)(	Bushing, Strn Rlf	1945287	1	1	1	1

Gas Conversion Kits - All models
 Nat to LP NAHF002LP *1009509
 LP to Nat *1009510
 *Must be ordered from Service Parts