



MONACO
COACH CORPORATION

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

December 15, 2004

Richard Boyd, Chief
Medium & Heavy Duty Vehicle Division
Office of Defects Investigation
National Highway Traffic Safety Administration
400 Seventh Street SW
Washington, DC 20590

RE: NSA-14sjm
PE04-068

Dear [REDACTED]

This letter and accompanying materials are the response of Monaco Coach Corporation ("Monaco" or "the Company") to your October 1, 2004 request for information letter directed to the undersigned in the above referenced matter.

Monaco's responses are as follows:

1. By model, model year, state the total number of subject motorhomes sold in the United States.

Response: Monaco sold in the United States the following number of Monaco Knight motorhomes that meet the definition of "subject vehicles":

2000 Monaco Knight	313
2001 Monaco Knight	459
2002 Monaco Knight	377

Total 1,149

Information was obtained from the Company's computer warranty data file records as of 11-23-2004.

2. By make, model and model year, identify any other motorhome and their populations (other than the subject vehicles) sold by Monaco in the United States that were equipped with the LP gas lines routed in the rear open wheel well area as the subject vehicles.

Response: Monaco did not manufacture or sell any motorhomes that were equipped with LP gas lines routed in the rear *open* wheel well area. Other motorhomes that were equipped with similar LP gas line routing in the wheel well area *with similar shielding*, and which therefore also fall within the definition of "subject vehicle", are the following:

BEAVER

Baron

2003 -- 34PDD -- 5
 34PST -- 10
 36PBD -- 7
 36PST -- 13
 38PBD -- 3
 38PST -- 14

HOLIDAY RAMBLER:

Ambassador

2000 -- 34PBD -- 25
 34PBS -- 77
 36PBS -- 215
 2001 -- 30PBD -- 29
 32PBD -- 46
 34PBD -- 75
 34PBS -- 20
 36PBD -- 146
 36PBS -- 52
 38PBD -- 64
 38PBT -- 8
 2002 -- 30PBD -- 7
 32PBD -- 25
 34PBD -- 28
 34PST -- 33
 36PBD -- 42
 36PBS -- 1
 36PST -- 54
 38PBD -- 38
 38PBT -- 72

Endeavor Diesel

1997 -- 35CD -- 2
 35CDS -- 12
 37CD -- 2
 37CDS -- 18

		37WD - 1
		37WDS -- 55
	1998 --	34WDS -- 14
		35WDS -- 20
		37CDS - 62
		37WDS - 73
	1999 -	34WDS -- 39
		35WDS -- 76
		37CDS - 160
		37WD - 3
		37WDS -- 207
		37WDS4 - 324
	2000 -	34WDS -- 31
		35WDS -- 81
		38CDS - 209
		38WDD -- 155
		38WDS - 199
		40PBD -- 213
Neptune	2002 -	30PBD -- 7
		32PBD - 40
		34PBD - 47
		34PDD - 5
		36PBD -- 93
	2003 --	30PBD -- 15
		32PBD -- 38
		34PDD - 110
		36PBD -- 100
MONACO		
Cayman	2002 --	30PBD - 14
		32PBD - 36
		34PBD -- 43
		34PDD - 1
		36PBD - 71
	2003 -	30PBD - 23
		32PBD -- 39
		34PDD - 82
		36PBD - 89
Diplomat	1998 -	36B - 27
		38A - 172
		38C -- 7
	1999 -	36B -- 117
		38A -- 728
		38C - 4
	2000 --	36B - 55

36D - 62
38A - 526
38C - 1
38D - 290
40PBD -- 274

Total 6,181

3. State the number and provide copies of all documents related to the following, from all sources, of which Monaco is aware and which relate, or could relate to the alleged defect in the subject vehicles:

a. owner/fleet complaints;

Response: None

b. field reports;

Response: None

c. crash/incident claims;

Response: None

d. subrogation claims;

Response: None

e. lawsuits; and

Response: None

f. third-party arbitration proceedings (where Monaco is a party to the arbitration).

Response: None

4. State the total number of warranty claims, including extended warranty claims, and requests for "goodwill," field, or zone adjustments received by Monaco that could relate to the alleged defect in the subject vehicles. **Provide a copy of each claim.** Please provide for each item in this question a table showing the incident date, mileage of vehicle at the time of incident (if known), model year, owners complaint, disposition of matter, owners name, address, phone number and, where a fleet vehicle is involved, the name of the fleet, and the name and telephone

number of a contact person in that fleet. Each problem claim code must be identified. For those VIN's with multiple warranty claims occurring on different dates, Monaco should count each claim separately. Each warranty/problem claim code must be identified. Also, include any claim that was denied by Monaco.

Response: None

5. Identify and describe, and provide copies of all documents relating to, all testing, studies, surveys, assessments, and evaluations undertaken by or for Monaco that relate to the alleged defect in the motor homes. For each activity, state the date on which it was initiated, state the reason(s) why it was initiated, state the name and address of the person responsible for conducting the activity, state the objectives of the activity, and describe the activity, identifying any parts involved and state the source of the parts, and summarizing the results, if any, that have been obtained. If the activity is still ongoing, state the target completion date. Provide copies of all documents relating to each of the listed activities, regardless of whether they are interim, draft, or final form.

Response: Upon receiving a call from NHTSA, Monaco investigated the single consumer complaint by initially verifying the correct parts and production application with engineering and production. In addition, all of the Monaco factory service centers inspected the subject vehicles in their facilities at the time to verify that the motorhomes were built as specified, including being equipped with shielding. All units inspected were found to be in accordance with engineering specifications with shielding intact and no LP gas line damage. This group of motorhomes inspected included a 2001 Knight that was produced just 2 weeks prior to the consumer unit that was the subject of the complaint to NHTSA. Again, the inspection revealed that all shielding was installed and intact, and the LP gas lines in the wheel well area were undamaged and in good condition.

6. Identify and describe all modifications or changes made by Monaco in the design, or material composition, or parts thereof, that relate, or could relate, to the alleged defect since the introduction of this model. Separately state the following information for each such modification or change:

- a. the time period during which the modification or change was developed;

Response: For the 2003 model year, Monaco made changes to the Knight floorplan designs that eliminated the need to route the LP line in the wheel well area. This change pre-dated receipt of the consumer complaint. It was driven by floorplan design and not

any perceived problem with LP line routing. Certain other models that are also "subject vehicles" had floorplan design changes that eliminated the routing of the LP gas line in the wheel well area at the introduction of the 2004 model year. See the listing of motorhomes in the response to request number 10.

- b. the date or approximate date on which the modification or change was approved for production;

Response: Approximately June of 2002 for the Knight motorhome and June of 2003 for other models. See the response to item number 10.

- c. the names, titles, telephone numbers of all engineers involved in the development and/or the approval of the change or modification;

Response: The Company cannot identify the individual engineers who took the floorplan design changes from the product development department and redesigned the routing of the LP gas lines. Managers in engineering at the time were Chris Hundt - Engineering Manager, Indiana and Jeff Butler, Engineering Manager, Oregon.

- d. the date or approximate date on which the modification or change was incorporated into production;

Response: See the response to subpart (b) above.

- e. a description of the modification or change, including an explanation of all differences between the original and the replacement part;

Response: The design changed allowed and required the LP line to be routed differently as the appliances to which the LP line was routed were relocated.

- f. the reason for the modification or change;

Response: Normal periodic floorplan redesign.

- g. the models affected by the modification or change;

Response: All models listed in the response to request numbers 1 and 2 have undergone periodic redesign.

- h. the previous and the new part number(s) for the parts incorporating the modifications or change; and

Response: The previous part number is 20601835 there is no current/modified part as this design is no longer used.

- i. whether the modified or changed components can be interchanged with earlier production components.

Response: Not applicable. There is no modified or changed part.

7. Identify 5 owners of the subject vehicles for each model year in the Washington D.C. area. For each owner identified, provide a current address, telephone number, and contact person (if applicable), and include the model and model year of the motorhome.

Response: See Attachment "A"

8. Describe the process by which Monaco receives warranty claims, owner's complaints, and reports from vehicle owners, vehicle manufacturers, dealers, distributors, and repair facilities. Separately estimate the period that elapses from the initial filing of the warranty claim, complaint, or report to the time that Monaco takes action on the matter. Describe the measures, if any, that are taken to ensure that a record is kept of the owners/complaints who have been denied requested warranty or goodwill repair(s). Explain why the complaint vehicle was denied warranty coverage or goodwill repairs on the alleged failure that occurred.

Response: Monaco receives warranty claims in both electronic format from authorized dealers and in paper ("hard copy") format from authorized dealers and approved service facilities. A warranty claim may also be generated from a repair receipt or other document submitted by a retail owner. Owner complaints are received in several ways: phone calls, correspondence and e-mail, either directly or passed through by dealers, and from electronic format by means of call sheet or Repair Order System in our factory service centers.

a. All issues are responded to immediately and, depending on the topic, shared with the department(s) that may have information or be affected or involved.

b. A denied warranty claim is recorded in the unit history and all phone calls or letters are recorded into a call sheet database within the customer service department.

c. The complaint vehicle was initially denied warranty or goodwill repairs because the motorhome was over 3 years old at the time of the incident. Warranty coverage had expired. A claim for collateral damage caused by a tire failure is normally referred

to and handled by the tire manufacturer. The owner was offered assistance in help contacting Goodyear but that offer was declined. The contact sheets from this initial period do not reflect any report to Monaco that owner was alleging the LP gas line did not have protective shielding in the wheel well area. We are uncertain at this point when that allegation was first made known to the Company.

9. Provide copies of any service or technical bulletins, product improvement campaign announcements, or advisories, and all other communications concerning the alleged defect that Monaco has issued to manufacturers, fleets, dealers, zone offices, or field offices. If no such communications have been issued, so state. If Monaco drafted any such communications, furnish a copy of the draft. For any such communication that has been issued, identify, by name, address, telephone number, and contact person, each entity to which it was sent, the date on which the communication pertained. For each such communication.

Response: None

- a. Provide a complete chronology, listing all activities or events, including, but not limited to, incidents involving a leaking LP gas line in a rear wheel well, which led Monaco to issue the communication.

Response: Not applicable

- b. State the number of repairs and/or replacements paid for by Monaco that resulted from the communication identified. List your response by repairing dealer (and include the dealer's name, address, and telephone number).

Response: Not applicable

10. Provide copies of the engineering specification drawing(s) for the routing of the LP gas lines depicting their route and any protective covering used on the LP gas lines for each of the subject motorhomes identified in question number one and question number two. Identify the size and location of the LP gas storage tank. Furnish the material specifications and the material composition for each component (gas hoses/lines, "black piping"), if not included on the drawings. Provide copies of any information, such as codes, standards, or recommendations, germane to the alleged defect published by trade groups such as the Recreation Vehicle Industries Association (RVIA), American National Standard Institute (ANSI), etc. and state whether Monaco complies with such standard or recommendation.

Response: The attached drawings will correspond by the following letter after each make of vehicle. See Attachment "B" for list and drawings.

1997	1998	
Endeavor Diesel	Diplomat	Endeavor Diesel
35CD (A)	38A (C)	34WDS (D)
35CDS (A)	36B (C)	35WDS (E)
37CD (B)	38C (C)	37WDS (E)
37CDS (B)		37CDS (E)
37WD (B)		
37WDS (B)		

1999		
Diplomat	Endeavor Diesel	
38A (C)	34WDS (D)	37WD (E)
36B (C)	35WDS (E)	37WDS (E)
38C (C)	37CDS (E)	37WDS4(E)

2000			
Diplomat	Endeavor Diesel	Knight	Ambassador
36B (C)	34WDS (D)	34H (H)	34PBD (H)
36D (C)	35WDS (E)	34Y (K)	34PBS (K)
38A (C)	38CDS (E)	36Z (L)	36PBS (L)
38C (C)	38WDD (E)		
38D (C)	38WDS (E)		
40PBD (F)	40PBD (G)		

2001	
Knight	Ambassador
30J (I)	30PBD (I)
32L (J)	32PBD (J)
34H (H)	34PBD (H)
34Y (K)	34PBS (K)
36R (M)	36PBD (M)
36Z (N)	36PBS (N)
38B (M)	38PBD (M)
38T (N)	38PBT (N)

2002	
Knight/ Ambassador	Cayman/Neptune

30PBD (I)	30PBD (I)
32PBD (I)	32PBD (P)
34PBD (H)	34PBD (H)
34PST (O)	34PDD (R)
36PBD (M)	36PBD (M)
36PBS (L)	
36PST (Q)	
38PBD (M)	
38PBT (N)	

2003

Baron	Cayman/Neptune
34PDD (R)	30PBD (I)
34PST (O)	32PBD (S)
36PBD (M)	34PDD (R)
36PST (Q)	36PBD (M)
38PBD (M)	
38PST (Q)	

- 1) The specifications of the hoses and piping will be Attachment "B".
 LP hose is a 1/2" ID x 203" UL listed type 1 LP gas hose assembly. Part number 18620743
 Manifold pipe is 1/2" diameter black piping for gas systems. Part number 191021000
- 2) The LP gas storage tanks are all located center of coach between frame rails and located just forward of the rear axle.
- 3) The LP gas tank sizes are on two floorplan models the 30J and 30PBD are 26 gal and the remainder are all 30 gal at 80% fill.
 LP tanks are manufactured by Manchester Tank
 26gal. tank - 16" x 40" part number 18621226
 30gal. tank - 16" x 48" part number 18621171
- 4) Attached are standards books for the relevant time period(s) relating to applicable codes and standards and recommendations, all of which Monaco met or exceeded.

11. Provide a copy of any manuals or other material offered to assist field technicians in the proper diagnosis and repair of the LP gas system for each subject vehicle.

Response: Monaco does not publish a repair manual for LP gas repair. We do recommend that dealers obtain certification by authorized local and state training and certification centers and/or become certified through a local college providing RVIA certification courses.

12. Furnish Monaco's assessment of the alleged defect in the subject vehicle, including:

- a. all casual or contributory factors;

Response: A sudden tire failure (blowout, tread separation or sidewall separation) occurred, causing the tire carcass to be expelled within the wheel well area.

- b. the failure mode;

Response: Unknown, but apparently a piece of the tire carcass damaged the LP gas line in the wheel well area. The owner reports that a shield was not in place at the time of the failure

- c. model, model years affected and why the defect is limited to these particular model, model year vehicles;

Response: Monaco has no information as to why the complaint vehicle did not contain a shield at the time of the incident and cannot determine if the shield had been removed by the owner or a repair facility. To the best knowledge of the Company, the complaint vehicle was equipped with a shield over the LP gas line in the wheel well area at the time it left Monaco's control.

- d. the risk to motor vehicle safety that it poses; and

Response: A properly shielded LP gas line may be routed through a wheel well area without a risk to motor vehicle safety. As designed, the "subject vehicles" had properly shielded LP gas lines.

- e. whether there are any circumstances that would provide vehicle operators or others with warning of its existence.

Response: The owner could make a periodic inspection of the wheel well area to check the integrity of the shield and LP gas line. If a line is ruptured, the telltale odor of LP gas would be a warning. In addition, LP leak detectors could warn of an LP leak.

Also separately, furnish Monaco's assessment of the complaint vehicle and state what repairs were performed and the current disposition of the complaint.

Response: Mike Becker, Indiana customer service manager, talked to the consumer by telephone and asked him what Monaco could

do to help him. The owner requested that Monaco fabricate and send him two shields made of metal to fit the same as the current part. The customer indicated that he would install the shields. Monaco fulfilled this request in September of 2004 on a goodwill basis. Follow-up calls to the customer have not been returned. We believe that he is satisfied.

13. Identify what action Monaco intends to take on this matter.

Response: Based on all of the circumstances and findings as set forth in this response, the Company is of the opinion that this was an isolated event, that its motorhomes were produced with the specified shields and that no further action is warranted.

14. Provide the dates in which Monaco ceased collecting data in response to each item of this information request.

Response: December 13, 2004

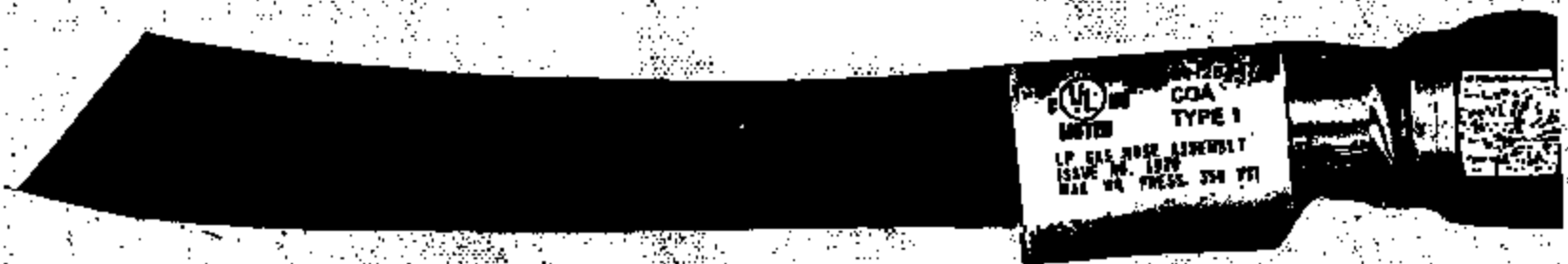
Sincerely,


A handwritten signature in black ink, appearing to read 'C. Zucker', with a long horizontal flourish extending to the right.

Chuck Zucker
Technical Coordinator Supervisor
Monaco Coach Corporation

ATTACHMENT "B"

RESPONSE # 10 - 1



 CO2
TYPE 1
LP GAS HOSE ASSEMBLY
ISSUE NO. 1879
MFG. BY PRESS. 354 971

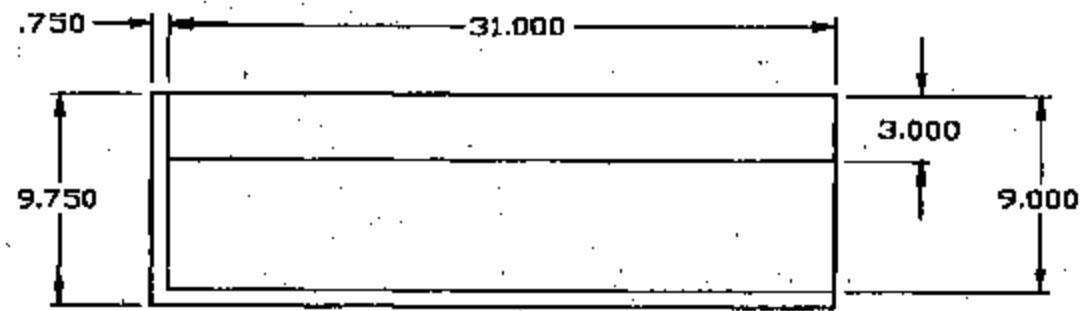
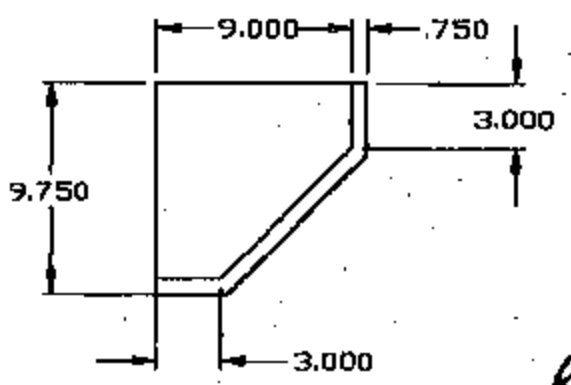
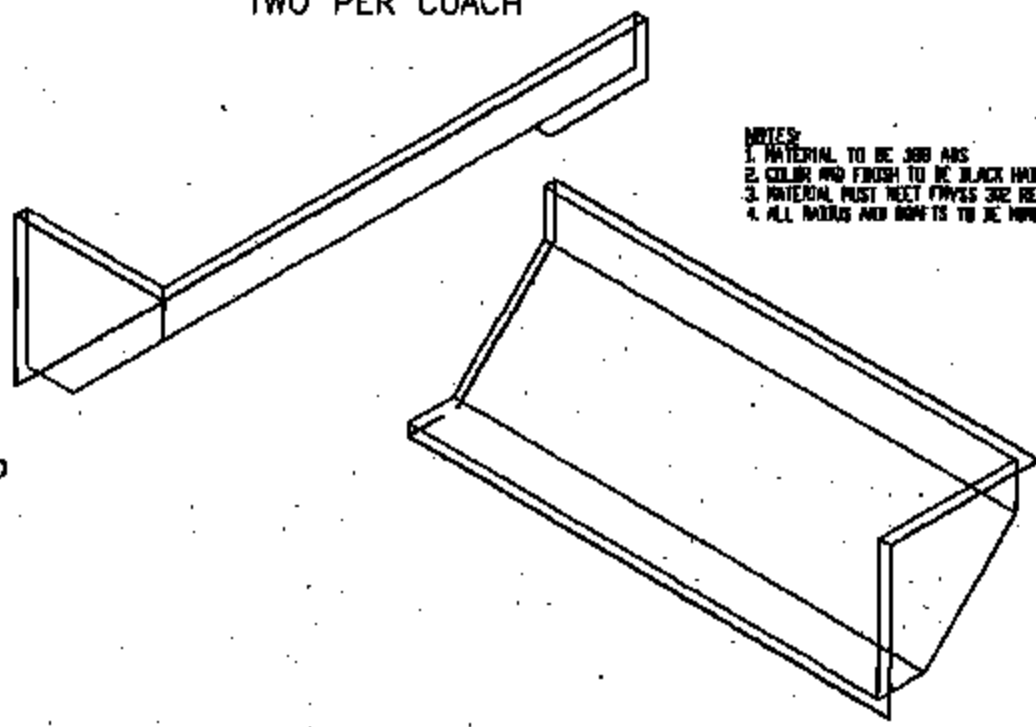
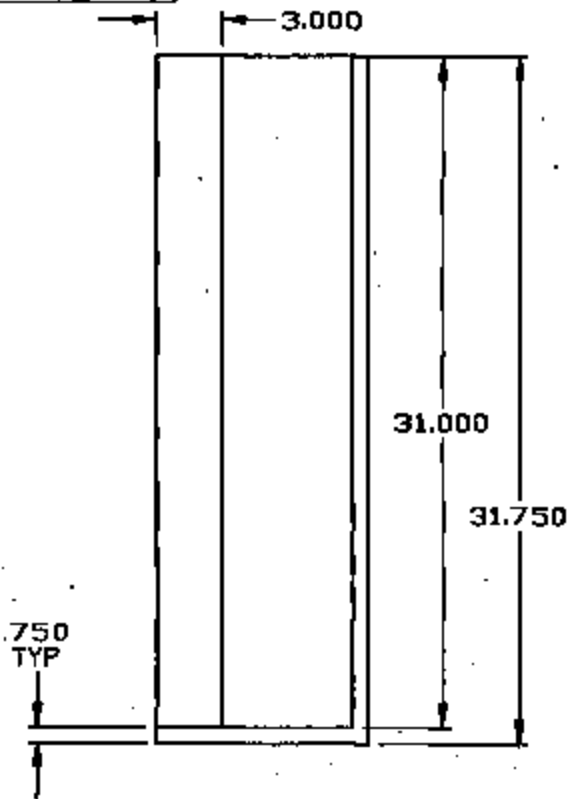
ATTACHMENT "B"

N:\00-29\20\20601835.DWG, 11/19/2004 12:54:01 PM

20601835 REV. C

USAGE: ALL 2003 CAY NEP BARON
TWO PER COACH

- NOTES:
1. MATERIAL TO BE 308 ABS
 2. COLOR AND FINISH TO BE BLACK HURCELL
 3. MATERIAL MUST MEET FMVSS 302 REQUIREMENTS
 4. ALL RADII AND ROUNDS TO BE MINIMUM UNLESS SPECIFIED



RESPONSE - # 6-h

THE HOLIDAY RAMBLER IS A REGISTERED TRADEMARK OF HOLIDAY RAMBLER, INC. ALL RIGHTS RESERVED. NO PART OF THIS DRAWING OR ANY REPRODUCTION THEREOF MAY BE USED TO REPRODUCE ANYTHING WITHOUT PERMISSION BY WRITING FROM HOLIDAY RAMBLER, INC. OR TO THE USER SPECIFICALLY REFERRED TO IN THIS DRAWING.

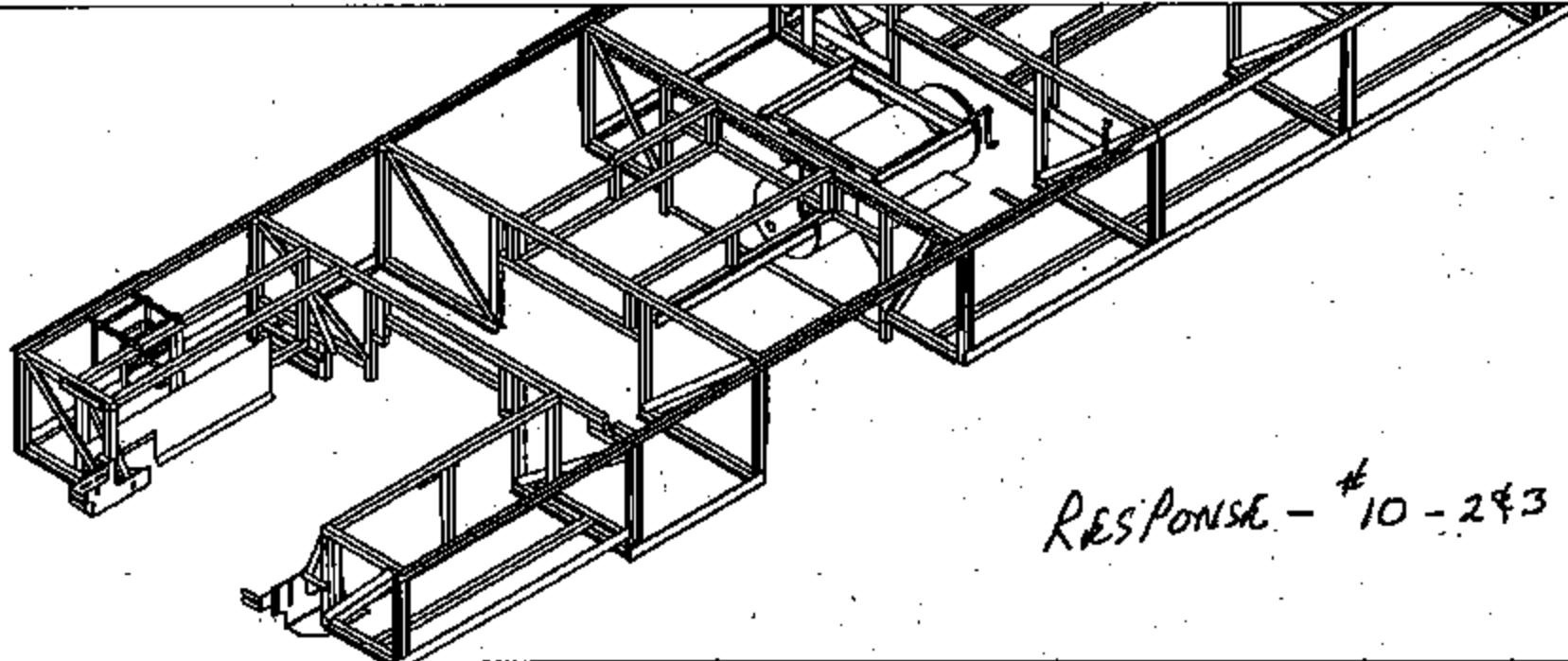
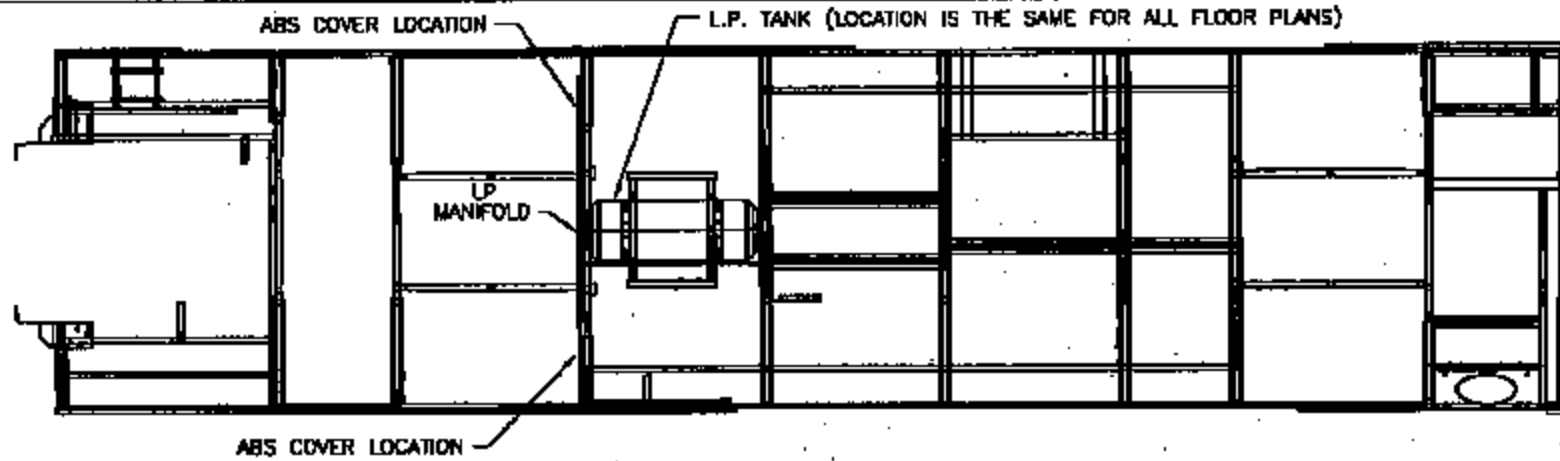
DESIGN BY: RAJULAY	APPROVED BY: DALEY	ENGINEER: JON ABB	TITLE: COVER, ROSE ABS GWH LINE32	SHEET: 1 OF 1
DATE: 3/6/97	DATE:	DATE:	SERIES: SEE USAGE ABOVE	DWG NO: 20601835

REV. C

Attachment "B"

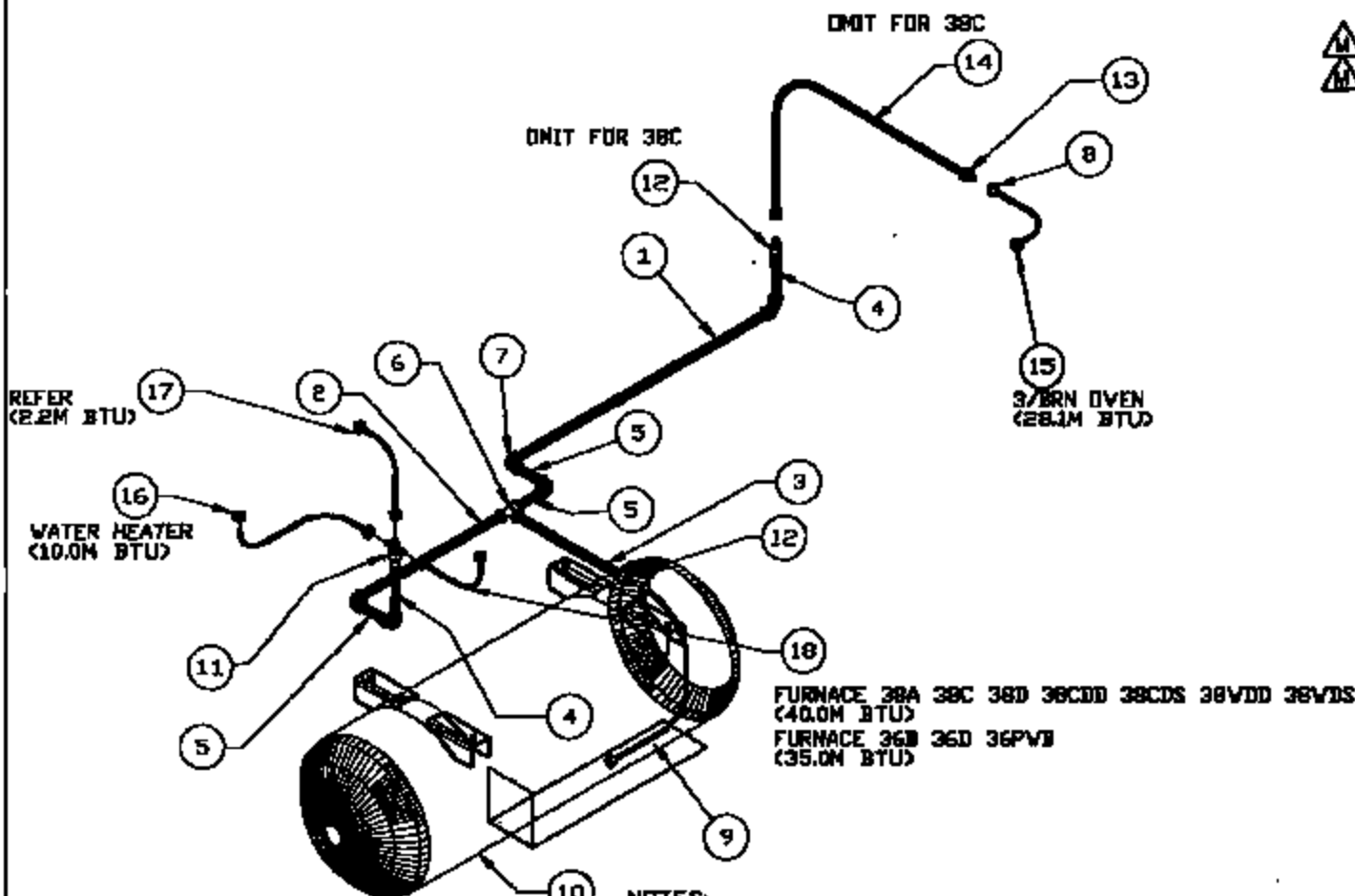
M:\TRANSFER\S Pric\36PDD CAY-NEP 04.dwg, 11/19/2004 12:49:35 PM

REV.	UNIT	DESCRIPTION OF CHANGE	BY	DATE
-	-	-	-	-



RESPONSE - # 10-243

4198019 REV. M



FURNACE 38A 38C 38D 38CDD 38CDS 38VDD 38VDS (40.0M BTU)
 FURNACE 36B 36D 36PV (35.0M BTU)

- NOTES:
 1. GROMMETS TO BE PROVIDED WHERE RISERS PASS THRU FLOOR.
 2. .375\"/>

SEE SHEET 2 FOR CSA UNITS

USAGE:
 DIP - 36B, 36D, 38A, 38C, AND 38D
 ENDD - 36PV, 38CDD, 38CDS, 38VDD, AND 38VDS

THE HOLIDAY RAMBLER DIV. OF MINACO PROPRIETARY RIGHTS IN THE MATERIAL DISCLOSED HEREON. NEITHER THIS DRAWING NOR ANY REPRODUCTION THEREOF MAY BE USED TO MANUFACTURE ANYTHING WITHOUT PERMISSION IN WRITING FROM HOLIDAY RAMBLER DIV. OF MINACO TO THE USER SPECIFICALLY REFERRED TO IN THIS DRAWING.

BILL OF MATERIAL

ITEM	DESCRIPTION	PART NO.
1	IRON PIPE, .50 ID X 33.00	19102100
2	IRON PIPE, .50 ID X 18.75	19102100
3	IRON PIPE, .50 ID X 14.25	19102100
4	IRON PIPE, .50 ID X 6.50	19102100
5	IRON PIPE, .50 ID X 4.00	19102100
6	FTG. IRON .50 ID TEE	19401500
7	FTG. IRON ELBOW	19400500
8	FORGED NUT, .375 X FL	19501110
9	FLEX HOSE, .50 ID X 24.00	04800173
10	TANK, LP 16.00 X 48.00	18628373
11	BRASS TEE, .375 FL X .50 FPT X .375 FL	19503566
12	BRASS FTG. .50 FPT X .50 FL	19503209
13	BRASS UNION, .50 FL X .375 FL	19503201
14	FLEX HOSE, .50 I.D. S/T 203.00	18628743
	FOR 38A 38B 38CDD, D 38VDD, S	
15	COPPER TUBE, .500 OD X 12.00	19800872
16	COPPER TUBE, .375 OD X 140.00	19200200
17	COPPER TUBE, .375 OD X 60.00	19200200
18	COPPER TUBE, .500 OD X 68.00	19200200
	FOR 36B 36D 36PV	
15	COPPER TUBE, .500 OD X 12.00	19800872
16	COPPER TUBE, .375 OD X 150.00	19200200
17	COPPER TUBE, .375 OD X 60.00	19200200
16	COPPER TUBE, .500 OD X 60.00	19200200
	FOR 38C DIPLOMAT	
15	COPPER TUBE, .500 OD X 120.00	19800872
16	COPPER TUBE, .375 OD X 140.00	19200200
17	COPPER TUBE, .375 OD X 60.00	19200200
18	COPPER TUBE, .500 OD X 68.00	19200200

REV.	DESCRIPTION	DATE
M	REVISED PIPING LAYOUT FOR MODIFIED SYSTEM	12/09/04
L	ADDED DRAWS AND REVISED END USE FOR HOLIDAY RAMBLER	08/26/04
K	ADDED NOTES AND CHANGES FOR THE PROJECT	08/26/04
J	CHANGED SIZE TO MATCH FOR HOLIDAY RAMBLER	08/26/04
I	END USE FROM HOLIDAY RAMBLER DIV. OF MINACO	08/26/04
H	END USE FROM HOLIDAY RAMBLER DIV. OF MINACO	08/26/04
G	END USE FROM HOLIDAY RAMBLER DIV. OF MINACO	08/26/04
F	CHANGED TO INCORPORATE END USER REQUIREMENTS	08/26/04
E	REVISED MANIFOLD FOR HOLIDAY RAMBLER DIV. OF MINACO	08/26/04
D	REVISED MANIFOLD FOR HOLIDAY RAMBLER DIV. OF MINACO	08/26/04
C	REVISED MANIFOLD FOR HOLIDAY RAMBLER DIV. OF MINACO	08/26/04
B	REVISED MANIFOLD FOR HOLIDAY RAMBLER DIV. OF MINACO	08/26/04
A	REVISED MANIFOLD FOR HOLIDAY RAMBLER DIV. OF MINACO	08/26/04
REV.	REVISIONS TO BE MADE BY	DATE

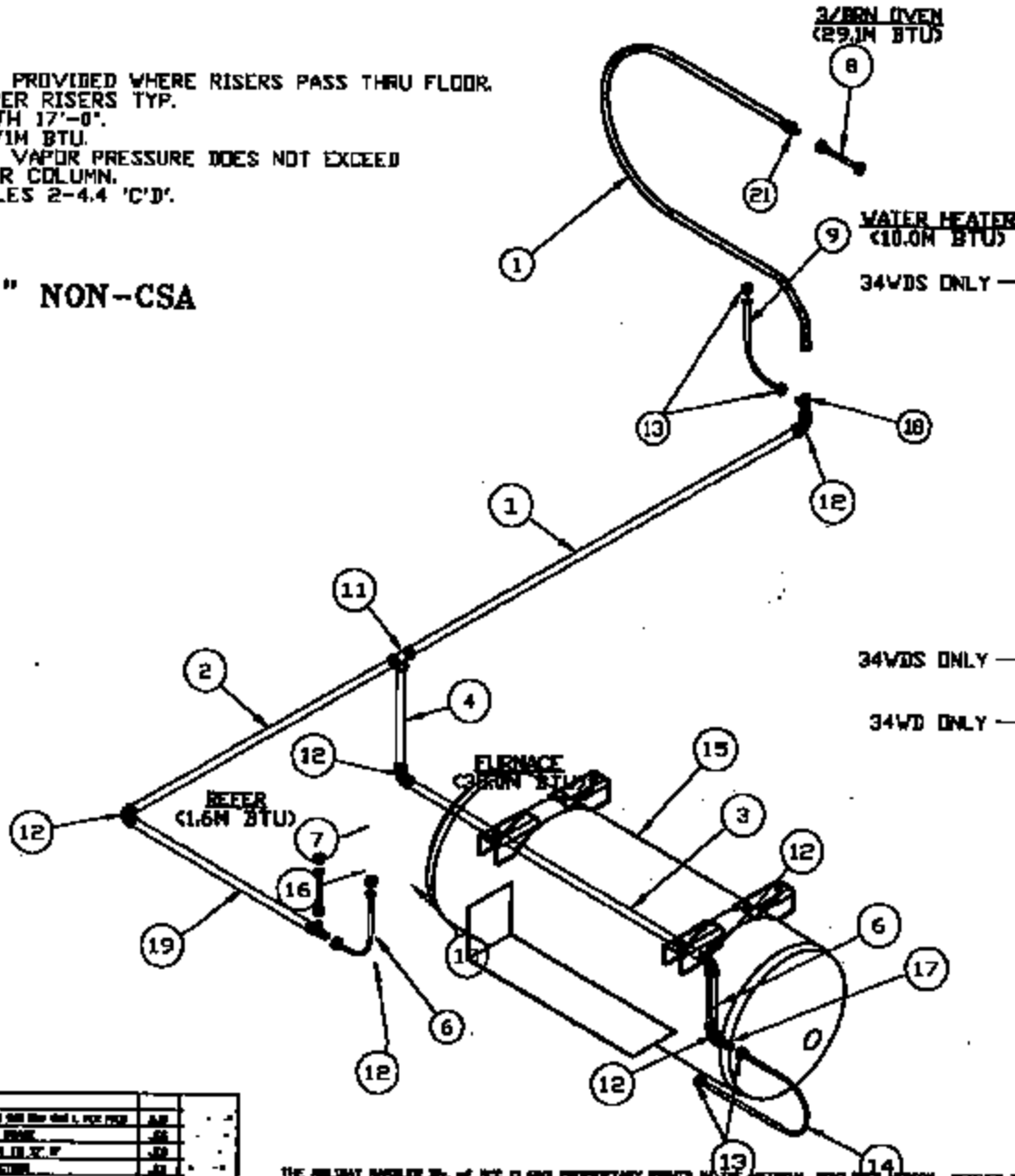
DESIGNED BY JASON G.	APPROVED BY DAVID	SCALE SPECIFIED DIMENSIONS ARE IN INCHES .XX AND XX.XX LOGS ANGLES PLUS OR MINUS 0.1°	TITLE HOLIDAY RAMBLER DIV. OF MINACO COACH Corp.	DATE 12/17/04	REV. # 1
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4198019

41980049 REV D

- NOTES:
1. GROMMETS TO BE PROVIDED WHERE RISERS PASS THRU FLOOR.
 2. .375" O/D COPPER RISERS TYP.
 3. MAXIMUM LENGTH 17'-0".
 4. MAXIMUM BTU 71M BTU.
 5. LP GAS MAXIMUM VAPOR PRESSURE DOES NOT EXCEED 14.0" OF WATER COLUMN.
 6. BASED ON TABLES 2-4.4 'C'D'.

39'-6" NON-CSA



BILL OF MATERIAL

ITEM	DESCRIPTION	PART NO.	QTY.
1	IRON PIPE, .50 ID X 49.00	19102100	1
2	IRON PIPE, .50 ID X 36.25	19102100	1
3	IRON PIPE, .50 ID X 40.00	19102100	1
4	IRON PIPE, .50 ID X 10.00	19102100	1
5			
6	IRON PIPE, .50 ID X 6.00	19102100	3
7	COPPER TUBE, .375 X 48.00	19200200	1
8	COPPER TUBE, .375 X 24.00	19200200	1
9	COPPER TUBE, .375 X 77.00	19200200	1
10	COPPER TUBE, .375 X 41.00	19200200	1
11	FTG, IRON .50 IB TEE	19401500	1
12	FTG, BRN ELBOW	19400600	6
13	FORGED NUT, .375 X FL	19501110	10
14	FLEX HOSE, .50 IB X 20.00	04100173	1
15	TANK, LP 16.00 X 48.00	18620373	1
16	BRASS TEE, .375 X 50FPT X .375	19504000	1
17	BRASS FTG, 1/2 NPT X 1/2 FL	19503100	1
18	BRASS TEE, 50FL X 50NPT X .375FL	19802793	1
19	IRON PIPE, .50 ID X 33.00	19102100	1
20	FLEX HOSE, .50 ID X 213.00	18620743	1
21	BRASS UNION, .50FL X .375FL	19503200	1
22	COPPER TUBE, .375 X 118.00	19200200	1

USAGE: 34VDS, 34WD

THE HOLIDAY RAMBLER DIV. OF HCC CLAIMS PROPRIETARY RIGHTS IN THE ORIGINAL MANUFACTURED DESIGN. NEITHER THIS DRAWING NOR ANY REPRODUCTION THEREOF MAY BE USED TO MANUFACTURE ANYTHING WITHOUT PERMISSION IN WRITING FROM HOLIDAY RAMBLER DIV. OF HCC SO THE USER SPECIFICALLY REFERS TO THIS DRAWING.

DRAWN BY: JASON G.	APPROVED BY:	UNLESS SPECIFIED DIMENSIONS ARE IN INCHES JOY ANG JAY 3-830 APPROX PLUS OR MINUS .02"	TITLE: LAYOUT, LP MANIFOLD	SHEET 1 OF 1
DATE: 2/18/97	DATE:		SERIES: DRAWING (E)TEL	DWG# 41980049

HOLIDAY RAMBLER
Div. of MONACO COACH Corp.
DO NOT SCALE DRAWING

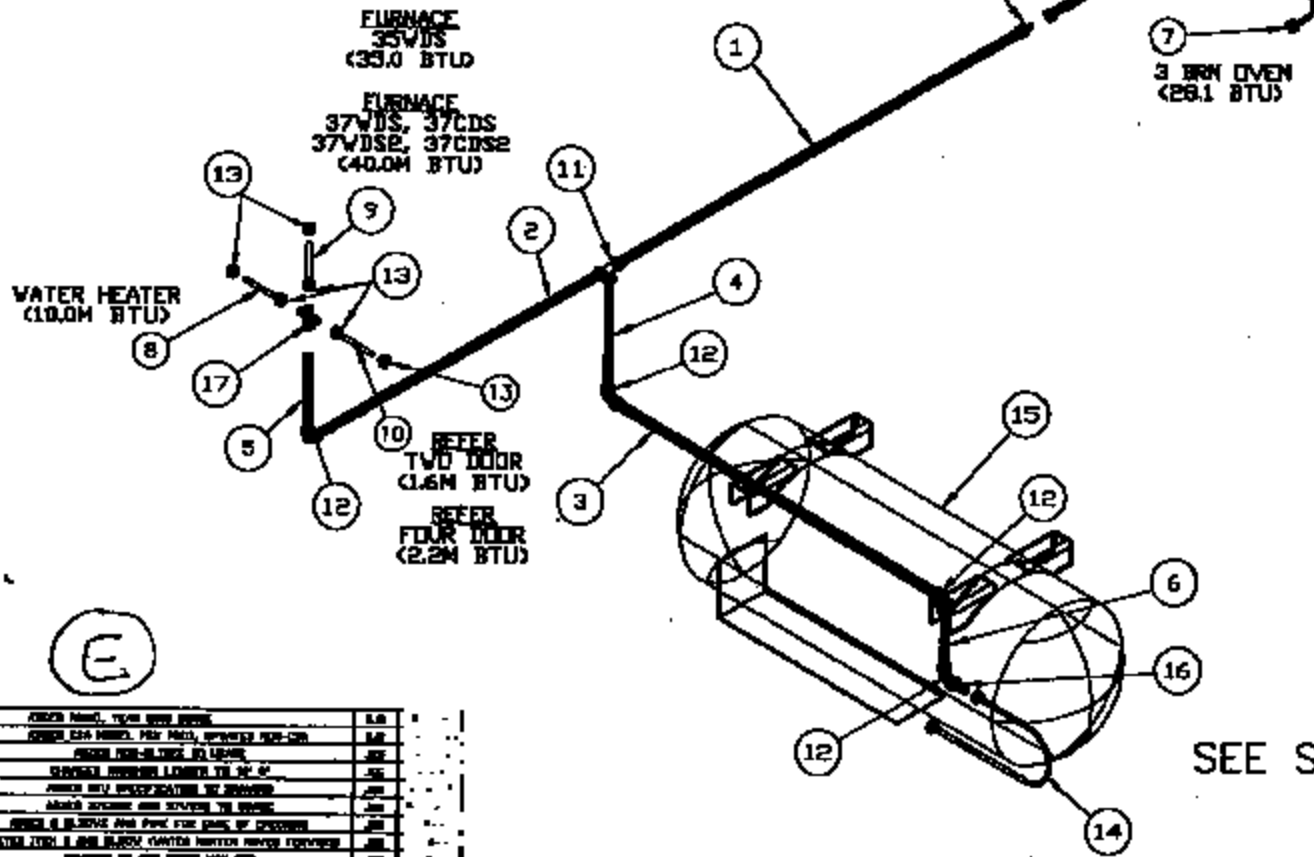
41980047

REV J

- NOTES:
1. GROMMETS TO BE PROVIDED WHERE RISERS PASS THRU FLOOR.
 2. .375" O/D COPPER RISERS TYP.
 3. MAXIMUM LENGTH 38"-11".
 4. MAXIMUM BTU 80.3M BTU.
 5. LP GAS MAXIMUM VAPOR PRESSURE DOES NOT EXCEED 14.0" OF WATER COLUMN.
 6. BASED ON TABLES 2-4.4 'C'D'.

OMIT FOR 37CD 37WD

OMIT FOR 37CD 37WD



BILL OF MATERIAL

ITEM	DESCRIPTION	PART NO.	QTY.
1	IRON PIPE, .50 ID X 40.00	19102108	1
2	IRON PIPE, .50 ID X 36.25	19102100	1
3	IRON PIPE, .50 ID X 46.00	19102100	1
4	IRON PIPE, .50 ID X 28.50	19102100	1
5	IRON PIPE, .50 ID X 8.00	19102100	1
6	IRON PIPE, .50 ID X 6.00	19102100	1
7	COPPER TUBE, .375 X 12.00	19200200	1
7	COPPER TUBE, .375 X 80.00 37CD 37WD	19200200	1
8	COPPER TUBE, .375 X 52.00 35VDS	19200200	1
8	COPPER TUBE, .375 X 60.00 37CDM 37CDS 37CDS4	19200200	1
8	COPPER TUBE, .375 ID X 61.00 37VD 37VDM 37VDS 37VDS4	19200200	1
9	COPPER TUBE, .375 ID X 61.00 37CDM 37CDS 37CDS4	19200200	1
9	COPPER TUBE, .375 X 95.00 35VDS	19200200	1
9	COPPER TUBE, .375 ID X 108.00 37VD 37VDM 37VDS 37VDS4	19200200	1
10	COPPER TUBE, .375 X 95.00 35VDS	19200200	1
10	COPPER TUBE, .375 X 100.00	19200200	1
11	FTG, IRON .50 ID TEE	19401308	1
12	FTG, IRON ELBOW	19408600	4
13	FORGED NUT, .375 X FL	19501110	8
14	FLEX HOSE, .50 ID X 24.00	04100173	1
15	TANK, LP 16.00 X 48.00	18628373	1
16	BRASS UNION, 1/2 NPT X 1/2 FL	19503100	1
17	BRASS FTG, 1/2 FPT X 3/8FL X 3/8FL	19503566	1
18			
19	BRASS UNION, 1/2 FPT X 1/2 FL	19503200	1
20	BRASS UNION, 1/2 FL X 3/8 FL	19503201	2
21	FLEX HOSE, .50 ID X 218.00	18628744	1
21	FLEX HOSE, .50 ID X 240.00 37CDM 37CDS 37CDS4	18628745	1

SEE SHEET 2 FOR CSA UNITS

YEAR 1999 USAGE:
 35VDS, 37CDM, 37CDS, 37CDS4, 37WDM,
 37VDS, 37VDS4
 YEAR 2000 USAGE:
 35VDS, 38CDD, 38CDS, 38WDD, 38VDS

REV	DESCRIPTION	DATE	BY
J	ADDED 1/2" DIA. VALVE BODY		
M	CHANGED 1/2" DIA. VALVE BODY TO 3/4" DIA.		
D	ADDED 1/2" DIA. VALVE BODY		
F	CHANGED 1/2" DIA. VALVE BODY TO 3/4" DIA.		
E	ADDED 1/2" DIA. VALVE BODY		
D	ADDED 1/2" DIA. VALVE BODY		
C	ADDED 1/2" DIA. VALVE BODY		
B	ADDED 1/2" DIA. VALVE BODY		
A	ADDED 1/2" DIA. VALVE BODY		
9	ADDED 1/2" DIA. VALVE BODY		
8	ADDED 1/2" DIA. VALVE BODY		
7	ADDED 1/2" DIA. VALVE BODY		
6	ADDED 1/2" DIA. VALVE BODY		
5	ADDED 1/2" DIA. VALVE BODY		
4	ADDED 1/2" DIA. VALVE BODY		
3	ADDED 1/2" DIA. VALVE BODY		
2	ADDED 1/2" DIA. VALVE BODY		
1	ADDED 1/2" DIA. VALVE BODY		
REV	ADDED 1/2" DIA. VALVE BODY		

THE HOLIDAY RAMBLER IS A REGISTERED TRADEMARK OF HOLIDAY RAMBLER, INC. IN THE UNITED STATES AND OTHER COUNTRIES. NO PART OF THIS DRAWING IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM HOLIDAY RAMBLER, INC. AT 10000 W. 10TH AVENUE, DENVER, CO 80231. (303) 751-1000.

APPROVED BY: JASTRY S. DATE: 10/20/98

DESIGNED BY: JASTRY S. DATE: 10/20/98

ENGINEER: JASTRY S. DATE: 10/20/98

DIV. OF MONACO COACH Corp.

TITLE: LAYOUT, LP MANIFOLD

SHEET: 1 OF 2

NO NOT SCALE DRAWING

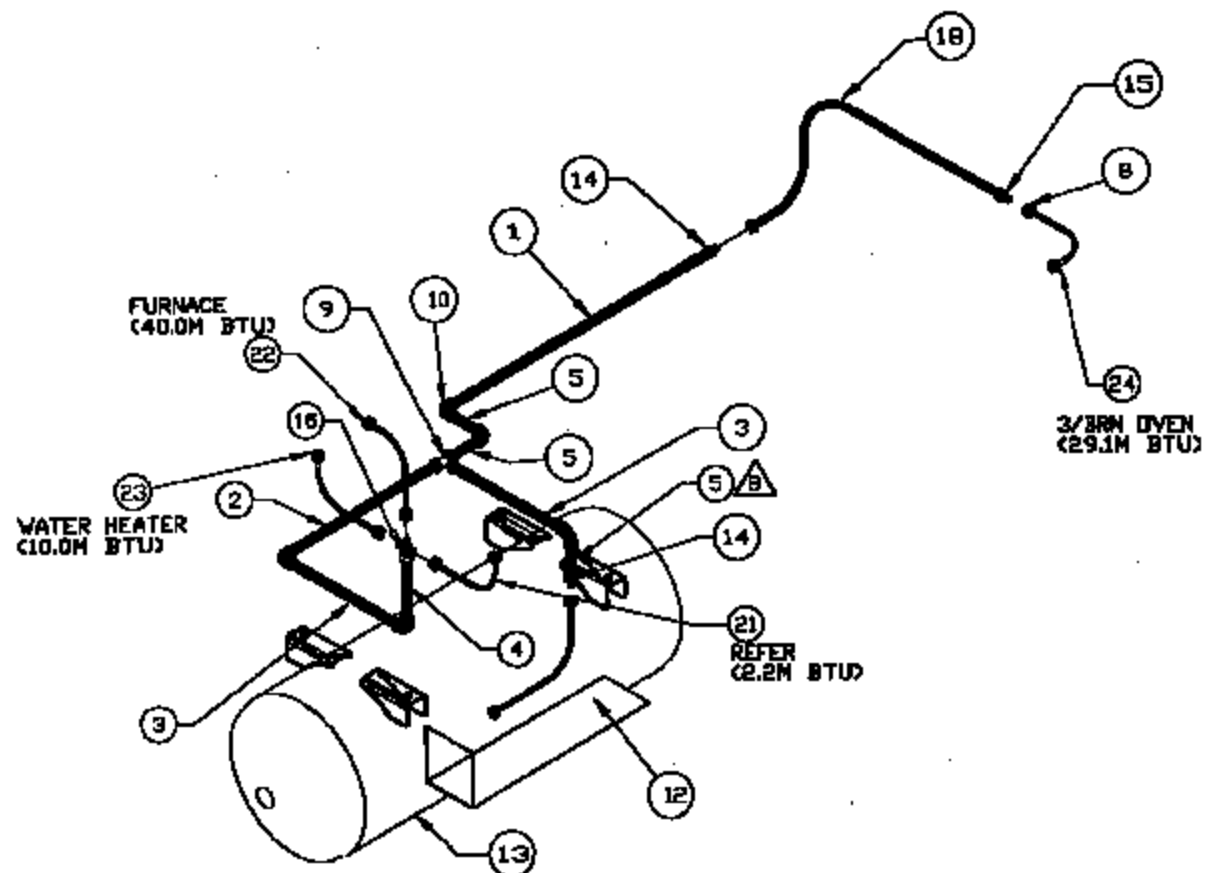
DESIGNED BY: JASTRY S. DATE: 10/20/98

DRAWN BY: JASTRY S. DATE: 10/20/98

41980047

41000051 REV C

REV	UNIT	DESCRIPTION OF CHANGE	BY	DATE
1	-	RELEASE WITH PROTOTYPE MODEL	B.T	12/9/04
2	-	MOVE WATER HEATER TO E/S FOR FIRST PRODUCTION UNIT	B.T	12/9/04
A	-	REVERSE CURVATURE	B.T	12/9/04
B	-	ARMED ELBOW AND 45° EXTENSION PER PRODUCTION	B.T	12/9/04
C	-	ARMED 3/8" DIP IN	B.T	12/9/04



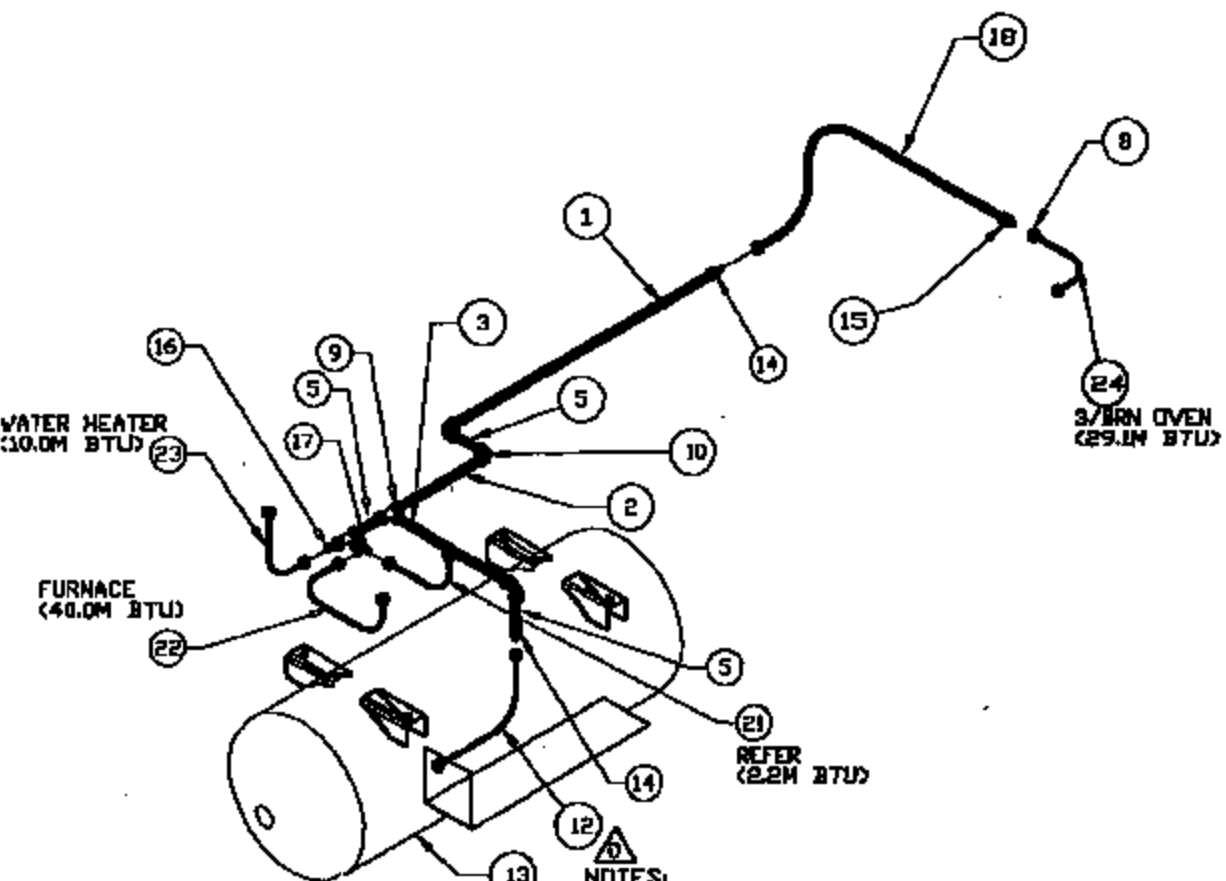
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22	COPPER, TUBE 3/8\"/>		
21	COPPER, TUBE 3/8\"/>		
20			
19			
18	FLEX HOSE, 3/8\"/>		
17			
16	FTG. BRASS TEE 3/8\"/>		
15	FTG. BRASS UNION 3/8\"/>		
14	FTG. BRASS UNION 3/8\"/>		
13	TANK, LP 16.0\"/>		
12	FLEX HOSE, 3/8\"/>		
11	FORGED NUT, 3/8\"/>		
10	FTG. IRON 3/8\"/>		
9	FTG. IRON 3/8\"/>		
8			
7			
6			
5	IRON PIPE, 3/8\"/>		
4	IRON PIPE, 3/8\"/>		
3	IRON PIPE, 3/8\"/>		
2	IRON PIPE, 3/8\"/>		
1	IRON PIPE, 3/8\"/>		

- NOTES:
1. GROMMETS TO BE PROVIDED WHERE RISERS PASS THRU FLOOR.
 2. 3/8" O/D COPPER RISERS TYP.
 3. MAXIMUM LENGTH 29'-10".
 4. MAXIMUM BTU 61.3M BTU.
 5. LP GAS MAXIMUM VAPOR PRESSURE DOES NOT EXCEED 14.0" OF WATER COLUMN.
 6. BASED ON TABLES 5.4.4

USAGE: 38PBD, 40PBD
 40PWD DIP-LE SCEPTRE
 SEE SHEET 2 FOR CSA UNITS

(F)

BILL OF MATERIAL



- NOTES:**
1. GROMMETS TO BE PROVIDED WHERE RISERS PASS THRU FLOOR.
 2. .375" O/D COPPER RISERS TYP.
 3. MAXIMUM LENGTH 30'-10'.
 4. MAXIMUM BTU 81.3M BTU.
 5. LP GAS MAXIMUM VAPOR PRESSURE DOES NOT EXCEED 14.0" OF WATER COLUMN.

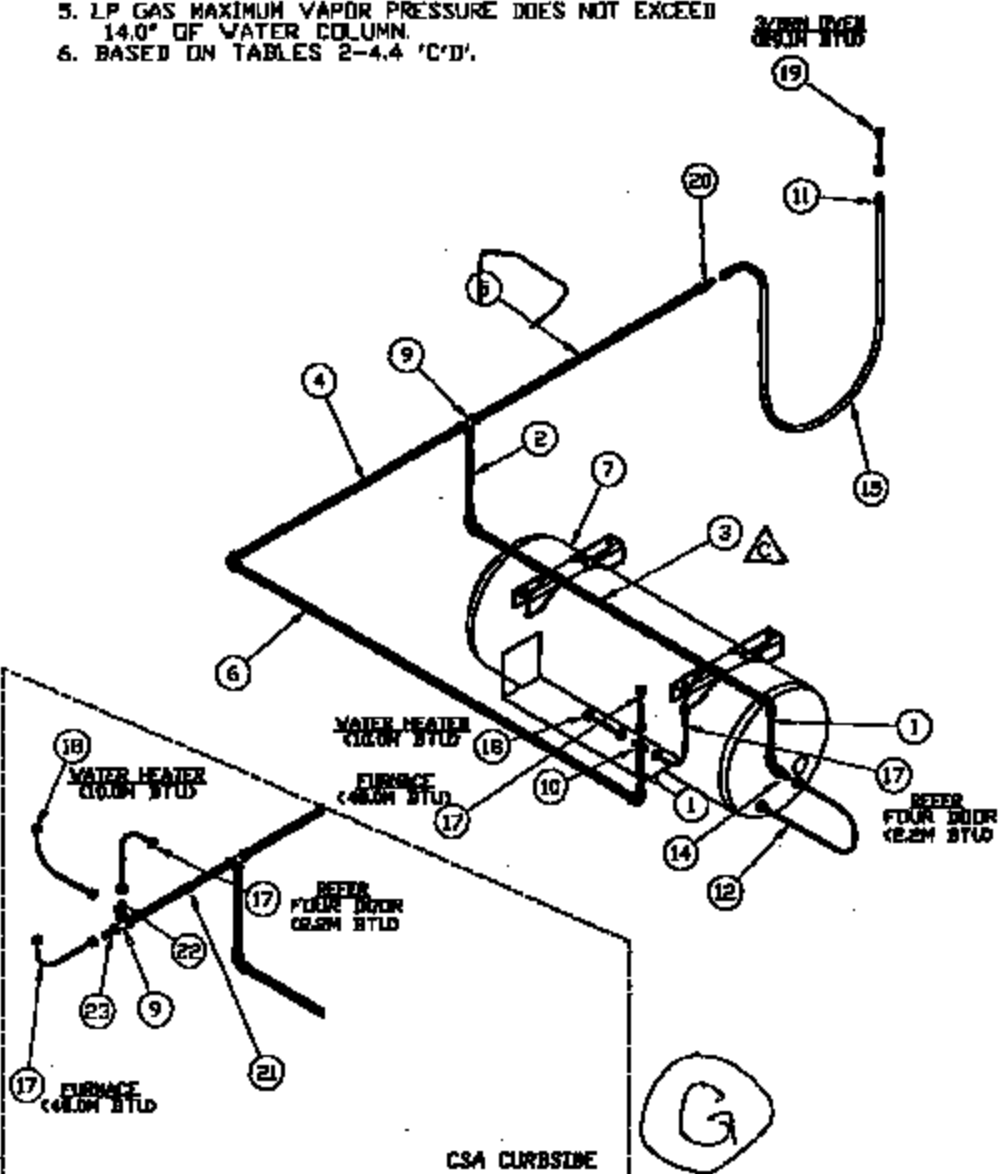
CSA UNITS ONLY
 USAGE: 38PBD, 40PBD
 40PWD DIP-LE SCEPTRE

ITEM	DESCRIPTION	PART NO.	QTY.
24	COPPER, TUBE .375 OD X 24.00 OVEN	19200200	1
23	COPPER, TUBE .375 OD X 18.00 W-HEATER	19200200	1
22	COPPER, TUBE .375 OD X 82.00 FURNACE	19200200	1
21	COPPER, TUBE .375 OD X 84.00 REFER	19200200	1
20			
19			
18	FLEX HOSE, 5/8 ID 5/11 203.00 L	18620743	1
17	FTE, BRASS TEE .375 FL X 5/8 NPT . 375 FL	19503808	1
16	FTE, BRASS UNION .50 NPT X 375 FL	19506528	1
15	FTE, BRASS UNION .50 FL X 375 FL	19503208	1
14	FTE, BRASS UNION .50 FPT X 5/8 FL	19503200	2
13	TANK, LP 15.00 X 48.00	18620373	1
12	FLEX HOSE, 3/8 ID X 24.00	84100173	1
11	FORGED NUT, 375 FL NUT	19501170	8
10	FTE, BRN 3/8 LB ELBOW	19400608	3
9	FTE, BRN 3/8 ID TEE	19401500	2
8			
7			
6			
5	IRON PIPE, 3/8 ID X 4.00	19102100	3
4			
3	IRON PIPE, 3/8 ID X 14.25	19102100	1
2	IRON PIPE, 3/8 ID X 10.00	19102100	1
1	IRON PIPE, 3/8 ID X 37.00	19102100	1

BILL OF MATERIAL

4100055 REV D

- NOTES:
1. GROMMETS TO BE PROVIDED WHERE RISERS PASS THRU FLOOR.
 2. .375" O/D COPPER RISERS TYP.
 3. MAXIMUM LENGTH 38'-5", 37'-8" CSA.
 4. MAXIMUM BTU 81.3M BTU.
 5. LP GAS MAXIMUM VAPOR PRESSURE DOES NOT EXCEED 14.0" OF WATER COLUMN.
 6. BASED ON TABLES 2-4.4 'C'D'.



REV.	UNIT	DESCRIPTION OF CHANGE	BY	DATE
1	--	RELEASED FOR PROTOTYPE BUILD	J.M	08/07/99
2	--	REVISED FOR MATERIAL CHANGES	J.M	08/23/99
3	--	REVISED PER PRODUCTION REQUEST	J.M	02/08/99
4	--	REL TO PRODUCTION, CHG ITEM 13 PL, AND ITEM 4 CALLOUT	J.M	11/17/99
5	--	REVISED MATERIAL LP FOR FIRST PRODUCTION RUN	J.M	02/12/99
6	--	CORRECTED QTY ITEM 6, ADDED ITEM 3	J.M	02/24/99
7	--	UPDATE QTY AND S/O FLEX HOSE LENGTH	J.M	11-18-02

CSA ROADSIDE

CSA UNITS

23	FTG. BRASS UNION .375 FL X .50 NPT	19506320	1
22	FTG. BRASS TEE .375 X .50 NPT X .375 FL	19503800	1
19	COPPER TUBE, .375 X 24.00	19200200	1
18	COPPER TUBE, .375 X 60.00	19200200	1
17	COPPER TUBE, .375 X 100.00	19200200	1
21	IRON PIPE, .50 X 16.50	19102100	1
20	FTG. BRASS UNION .50 FPT X .50 FL	19506320	1
19	COPPER TUBE, .375 X 12.00	19200200	1
18	COPPER TUBE, .375 X 100.00	19200200	1
17	COPPER TUBE, .375 X 60.00	19200200	1
16	FORGED NUT, .375 FL	19501110	8
15	BRASS UNION, .50 FL X .375 FL	19501507	1
14	BRASS UNION, .50 NPT X .50 FL	19503100	1
13	FLEX HOSE, .50 ID X 203.00	18620743	1
12	FLEX HOSE, .375 ID X 24.00	04100173	1
11	FTG. BRASS UNION .50 NPT X .375 FL	19506320	1
10	FTG. BRASS .375 FL X .50 FPT X .375 FL	19504000	1
9	FTG. .50 IRON TEE	19401500	1
8	FTG. .50 IRON ELBOW	19400600	6
7	TANK, LP 16 X 40	18620373	1
6	IRON PIPE, .50 X 63.00	19102100	1
5	IRON PIPE, .50 X 43.00	19102100	1
4	IRON PIPE, .50 X 36.00	19102100	1
3	IRON PIPE, .50 X 16.00	19102100	1
2	IRON PIPE, .50 X 10.50	19102100	1
1	IRON PIPE, .50 X 6.00	19102100	2
ITEM	DESCRIPTION	PART NO.	QTY.

BILL OF MATERIAL

THE MONACO COACH CORP. AND ALL OF ITS SUBSIDIARIES CLAIM PROPRIETARY RIGHTS IN THE MATERIAL HEREON. NEITHER THIS DRAWING NOR ANY REPRODUCTION THEREOF MAY BE USED TO REPRODUCE OR FABRICATE WITHOUT PERMISSION OR WRITING FROM MONACO COACH CORP. OR ANY OF ITS SUBSIDIARIES TO THE OTHER SPECIFICALLY REFERRED TO IN THIS DRAWING.

DRAWN BY: J.M. HUBER
 CHECKED BY: [Signature]
 DATE: 09/17/99
 UNLESS SPECIFIED OTHERWISE ALL DIMENSIONS ARE IN INCHES
 UNLESS SPECIFIED OTHERWISE ALL DIMENSIONS ARE IN INCHES

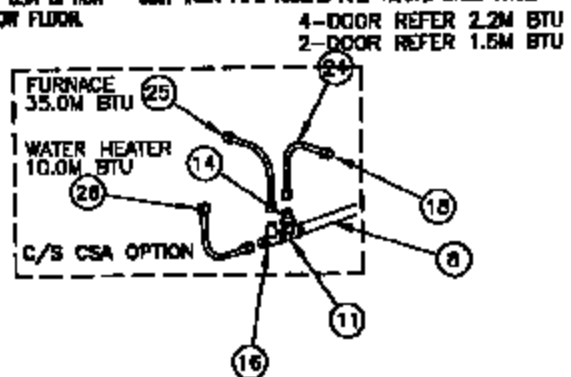
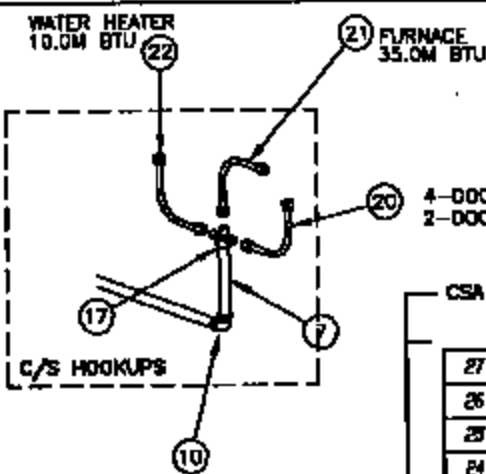
MONACO COACH CORP.
 HOLIDAY RAMBLER
 DO NOT SCALE DRAWING

TITLE: LAYOUT, LP MANIFOLD SHEET 1 OF 1
 NUMBER: 40PND EMB BSL PAGE: 4100055 REV: D

VAL# 4100063 REV C

REV.	DESCRIPTION OF CHANGE	BY	DATE
1	RELEASE PROTOTYPIC BUILDS PER PCR	JLR	02/18/00
A	CHANGE URAGE AND S/O HOSE LENGTHS UPDATE COPPER	JLR	05-28-00
A	UPDATE S/O PART NUMBER	JLR	08-22-00
C	UPDATE S/O PART NUMBER, ITEM 1	JLR	08-17-00

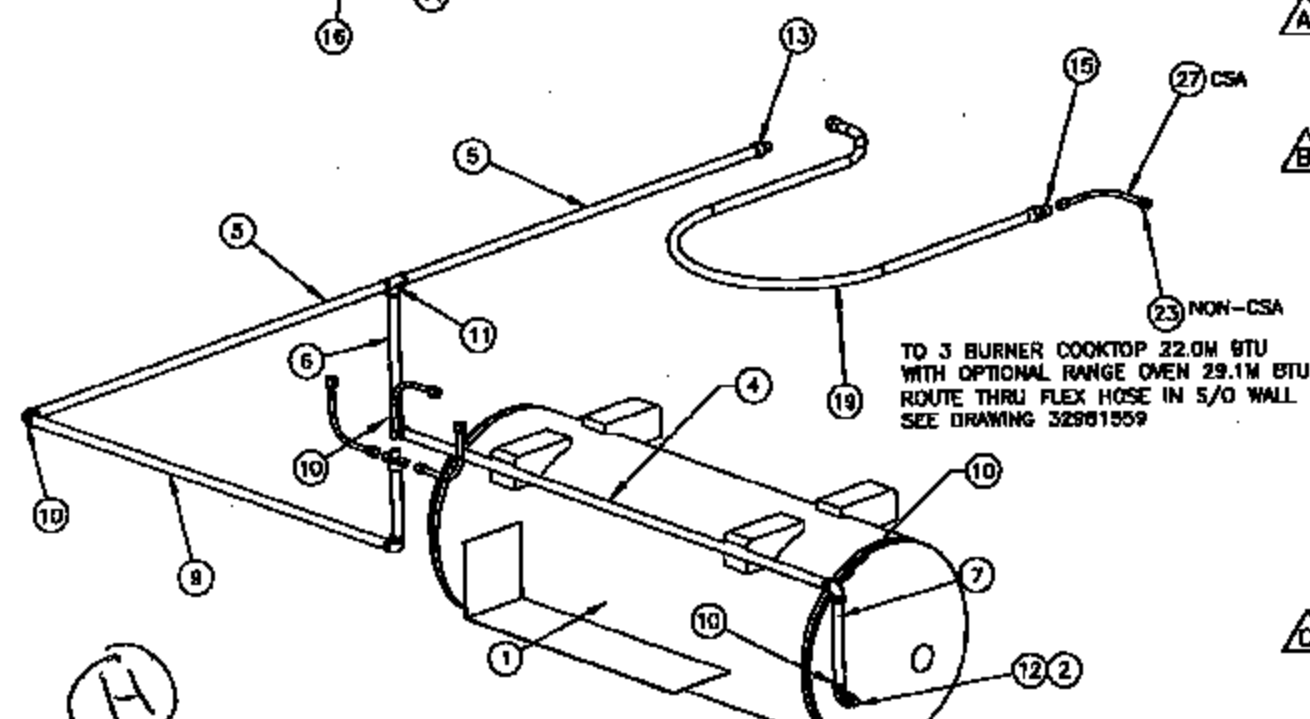
- NOTES:
1. INSTALL CLAMP ITEM 3 FOR IRON PIPE PASSING THRU FLOOR. USE GROMMETS FOR COPPER LINES PASSING THRU FLOOR.
 2. .50 ID IRON PIPE RISERS TYP. .375 COPPER RISERS FOR CSA UNITS
 3. MAXIMUM DEVELOPED LENGTH - 33'-7". CSA UNITS - 30'-8" A
 4. MAXIMUM BTU - 76.3H BTU
 5. LP GAS MAXIMUM VAPOR PRESSURE DOES NOT EXCEED 14.00 INCHES OF WATER COLUMN.
 6. BASED UPON TABLES 2-4.4 'C' AND 'D'.
 7. FOR CSA OPTION - OMIT IRON PIPE RISERS AND ROUTE LINES FROM BELOW FLOOR.



4-DOOR REFER 2.2M BTU
2-DOOR REFER 1.5M BTU

CSA UNITS

ITEM	DESCRIPTION	PART NO.	QTY.	CSA
27	COPPER TUBE, .375 OD X 24.00 RANGE	19200200	1	1
26	COPPER TUBE, .375 OD X 86.00 WATER HEATER	19200200	1	1
25	COPPER TUBE, .375 OD X 106.00 FURNACE	19200200	1	1
24	COPPER TUBE, .375 OD X 106.00 REFER	19200200	1	1
23	COPPER TUBE, .375 OD X 12.00 RANGE	19200200	1	1
22	COPPER TUBE, .375 OD X 102.00 WATER HEATER	19200200	1	1
21	COPPER TUBE, .375 OD X 68.00 FURNACE	19200200	1	1
20	COPPER TUBE, .375 OD X 68.00 REFER	19200200	1	1
19	FLEX HOSE S/O 20300	10620743	1	1
18	FINGER NUT .375 FL	19200100	8	1
17	FTG. BRASS CRG .375FL X .50FT X .375FL	19200100	1	1
16	FTG. BRASS TEE .375FL X .50FT X .375FL	19200300	1	1
15	FTG. BRASS UNION .50 FL X .375 FL	19200507	1	1
14	FTG. BRASS UNION .50FT X .375 FL	19200520	1	1
13	FTG. BRASS UNION .50FT X .50FL	19200200	1	1
12	FTG. BRASS UNION .50FT X .50FL 40FT	19200100	1	1
11	FTG. IRON TEE .50 ID	19400500	2	2
10	FTG. IRON ELBOW .500 FPT	19400600	5	3
9	IRON PIPE, .50 ID X 38.50	19102100	1	1
8	IRON PIPE, .50 ID X 26.75	19102100	1	1
7	IRON PIPE, .50 ID X 6.00	19102100	2	1
6	IRON PIPE, .50 ID X 12.00	19102100	1	1
5	IRON PIPE, .50 ID X 36.00	19102100	2	1
4	IRON PIPE, .50 ID X 46.00	19102100	1	1
3	CLAMP, .75 OD HTG	09407609	1	1
2	FLEX HOSE, .375 LB. X 24.00	04100173	1	1
1	TANK, LP 16.00 X 48.00	10621171	1	1



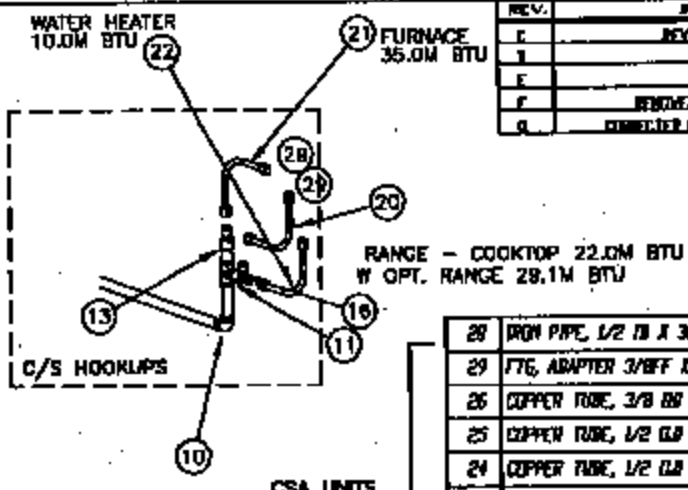
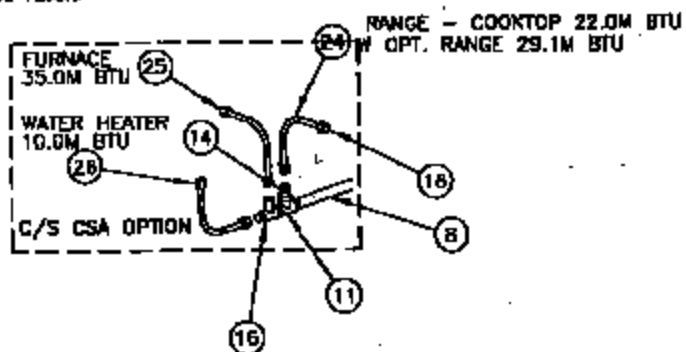
TO 3 BURNER COOKTOP 22.0M BTU WITH OPTIONAL RANGE OVEN 29.1M BTU ROUTE THRU FLEX HOSE IN S/O WALL SEE DRAWING 32901559

BILL OF MATERIAL

48010053 REV. G

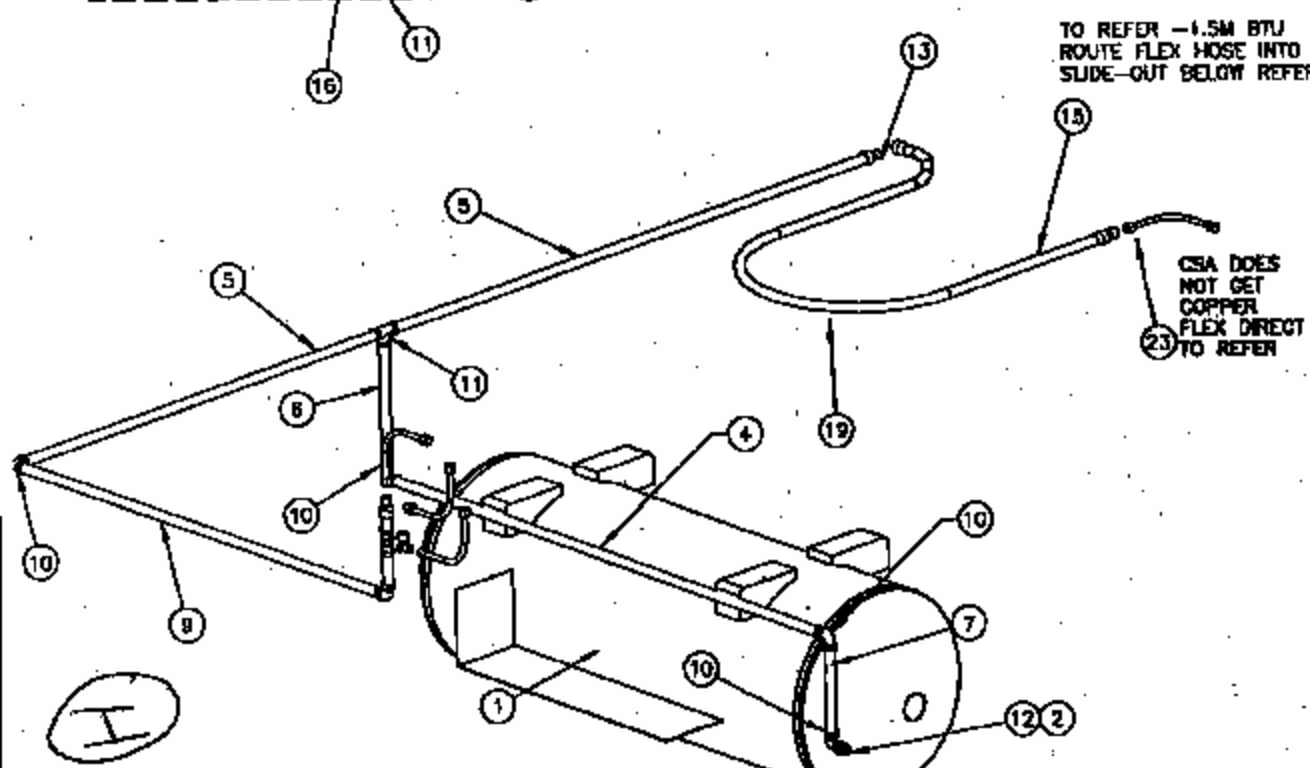
NOTES:

- INSTALL CLAMP ITEM 3 FOR IRON PIPE PASSING THRU FLOOR.
- USE GROMMETS FOR COPPER LINES PASSING THRU FLOOR.
- 50 TD IRON PIPE RISERS TYP. .375 OD COPPER RISERS FOR CSA UNITS
- MAXIMUM DEVELOPED LENGTH - 35'. CSA UNITS - 35'
- MAXIMUM BTU - 78.3M BTU
- LP GAS MAXIMUM VAPOR PRESSURE DOES NOT EXCEED 14.00 INCHES OF WATER COLUMN.
- BASED UPON TABLES 2-4.4 'C' AND 'D'.
- FOR CSA OPTION - OMIT IRON PIPE RISERS AND ROUTE LINES FROM BELOW FLOOR.



REV.	DESCRIPTION OF CHANGE	BY	DATE
F	REVISED DIMENSIONS PER AMMOP	TRE	02-08-01
F	REVISED WATER INH	TRE	02-26-01
F	REVISED MIN. CLEAR	TRE	04-12-01
F	REVISED FLEX HOSE REPLACED WITH 1/4"	TRE	04-12-01
G	CONNECTER CHANGE TO BE 1/2" ON WATER HEATER	DM	04/20/02

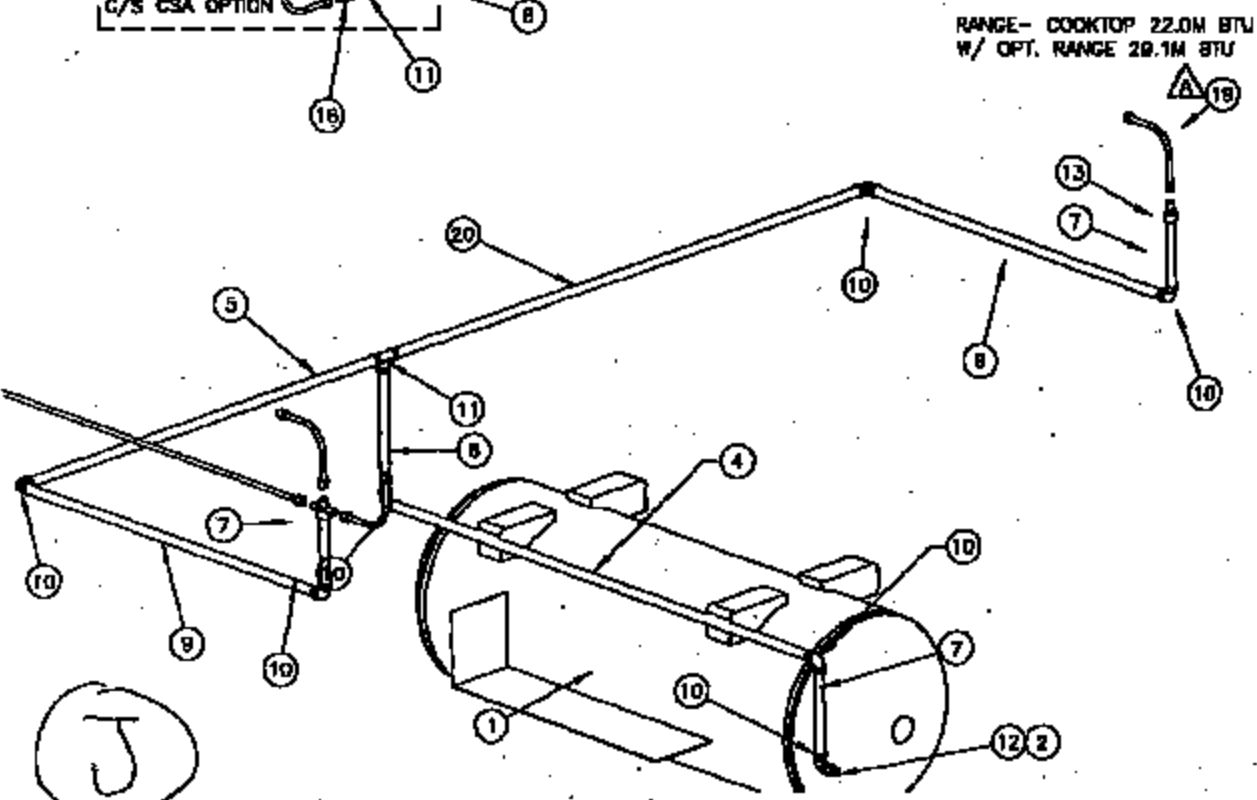
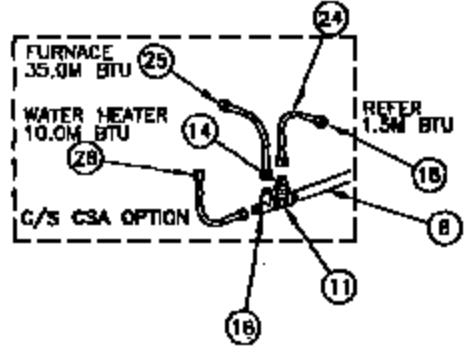
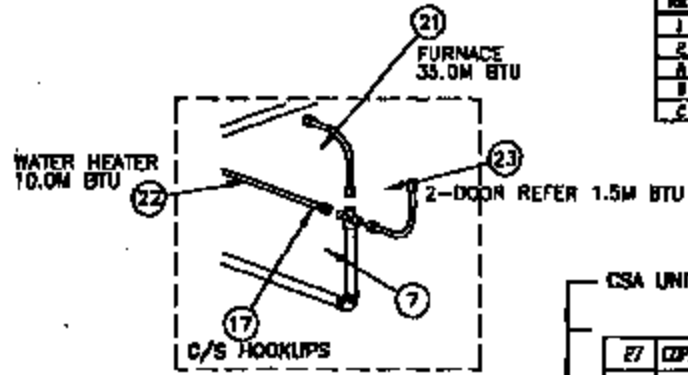
ITEM	DESCRIPTION	PART NO.	QTY.	CSA
28	IRON PIPE, 1/2 ID X 36	19102100	1	-
29	FTG. ADAPTER 3/8 BFL X 1/2 BFL	799	2	1
26	COPPER TUBE, 3/8 OD X 86	19200200	-	1
25	COPPER TUBE, 1/2 OD X 68	6539	-	1
24	COPPER TUBE, 1/2 OD X 68	6539	-	1
23	COPPER TUBE, 3/8 OD X 72	19200200	1	-
22	COPPER TUBE, 3/8 OD X 68	19200200	1	-
21	COPPER TUBE, 1/2 OD X 68	6539	1	-
20	COPPER TUBE, 1/2 OD X 68	6539	1	-
19	FLEX HOSE 3/8 I.D. X 1/4	18621270	1	1
18	FURGER NUT 3/8 FL	19501110	8	0
17	FTG. BRASS CDS 3/8FL X 1/2FPT X 3/8FL	19504000	1	-
16	FTG. BRASS TEE 3/8FL X 1/2FPT X 3/8FL	19503000	1	1
15	FTG. BRASS UNION 1/2 FL X 3/8 FL	19503201	1	1
14	FTG. BRASS UNION 1/2FPT X 3/8 FL	19506520	-	1
13	FTG. BRASS UNION 1/2FPT X 1/2FL	19503200	2	1
12	FTG. BRASS UNION 1/2FPT X 1/2FL 4BFT	19503300	1	1
11	FTG. IRON TEE 1/2 ID	19401500	1	1
10	FTG. IRON ELBOW 1/2 FPT	19400600	3	3
9	IRON PIPE, 1/2 ID X 36 1/2	19102100	1	-
8	IRON PIPE, 1/2 ID X 26 3/4	19102100	-	1
7	IRON PIPE, 1/2 ID X 8	19102100	2	1
6	IRON PIPE, 1/2 ID X 12	19102100	1	1
5	IRON PIPE, 1/2 ID X 36	19102100	2	2
4	IRON PIPE, 1/2 ID X 12	19102100	1	1
3	CLAMP, 3/4 OD HTG	08407609	1	1
2	FLEX HOSE, 3/8 ID X 24	04100173	1	1
1	TANK, LP 16 X 40 CS GAL	18621226	1	1



BILL OF MATERIAL

REV. 41010053 REV. C

- NOTES:
1. INSTALL CLAMP ITEM 3 FOR IRON PIPE PASSING THRU FLOOR.
 2. USE CROWNETS FOR COPPER LINES PASSING THRU FLOOR.
 3. .50 ID IRON PIPE RISERS TYP. .375 COPPER RISERS FOR CSA UNITS
 4. MAXIMUM DEVELOPED LENGTH - 33'-7", CSA UNITS - 30'-8"
 5. MAXIMUM BTU - 76.3M BTU
 6. LP GAS MAXIMUM VAPOR PRESSURE DOES NOT EXCEED 14.00 INCHES OF WATER COLUMN.
 7. BASED UPON TABLES 2-4.4 'C' AND 'D'.
 8. FOR CSA OPTION - OMIT IRON PIPE RISERS AND ROUTE LINES FROM BELOW FLOOR.



REV.	DESCRIPTION OF CHANGE	BY	DATE
1	RELEASE PROTOTYPE BUILT	CHB	8/24/88
2	WATER HEAT AFTER FLOOR	CHB	11/2/88
A	UPDATES FOR STOVE AND SINK OPTION	CHB	12/2/88
B	CORRECT PARTS IN 200 AND REVISUE CSA	CHB	10-02-88
C	REVERSE 200	TDO	12-17-88

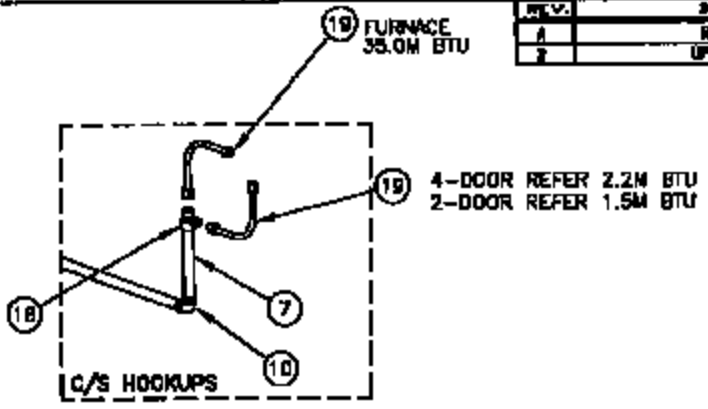
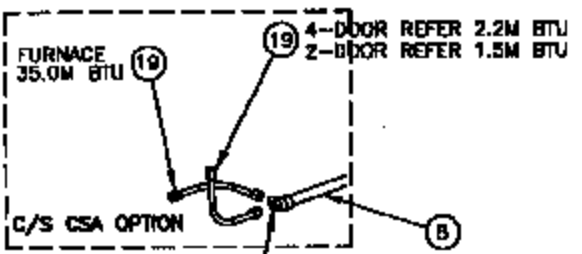
CSA UNITS

ITEM	DESCRIPTION	PART NO.	QTY.	CSA
27	COPPER TUBE, 3/8 OD X 24.00 RANGE	19200200	1	1
26	COPPER TUBE, 3/8 OD X 96.00 WATER HEATER	19200200	1	1
25	COPPER TUBE, 3/8 OD X 180.00 FURNACE	19200200	1	1
24	COPPER TUBE, 3/8 OD X 18.00 REFER	19200200	1	1
23	COPPER TUBE, 3/8 OD X 12.00 REFER	19200200	1	1
22	COPPER TUBE, 3/8 OD X 108.00 WATER HEATER	19200200	1	1
21	COPPER TUBE, 3/8 OD X 60.00 FURNACE	19200200	1	1
20	IRON PIPE, 3/4 ID X 30	19102100	1	1
19	COPPER TUBE, 3/8 OD X 18 FURNACE	19200200	1	1
18	FURGED NUT 3/8 FL	19500110	1	1
17	FTG. BRASS CRD 3/8FL X 50FT X 3/8FL	19504000	1	1
16	FTG. BRASS REC 3/8FL X 50FT X 3/8FL	19503000	1	1
15	FTG. BRASS UNION 3/8 FL X 3/8 FL	19503200	1	1
14	FTG. BRASS OPEN 3/8PT X 3/8 FL	19503300	1	1
13	FTG. BRASS OPEN 50FT X 3/8FL	19503200	1	1
12	FTG. BRASS OPEN 50FT X 3/8FL	19503100	1	1
11	FTG. IRON TEE 3/4 ID	19401500	2	2
10	FTG. IRON ELBOW 3/4 IPT	19400600	5	3
9	IRON PIPE, 3/4 ID X 32	19102100	1	1
8	IRON PIPE, 3/4 ID X 26.75	19102100	1	1
7	IRON PIPE, 3/4 ID X 6.00	19102100	2	1
6	IRON PIPE, 3/4 ID X 12.00	19102100	1	1
5	IRON PIPE, 3/4 ID X 35	19102100	2	1
4	IRON PIPE, 3/4 ID X 46.00	19102100	1	1
3	CLAMP, .75 OD NUT	80487609	1	1
2	FLEX HOSE, 3/8 I.D. X 24.00	8410073	1	1
1	TANK, LP 36.00 X 48.00	18621171	1	1

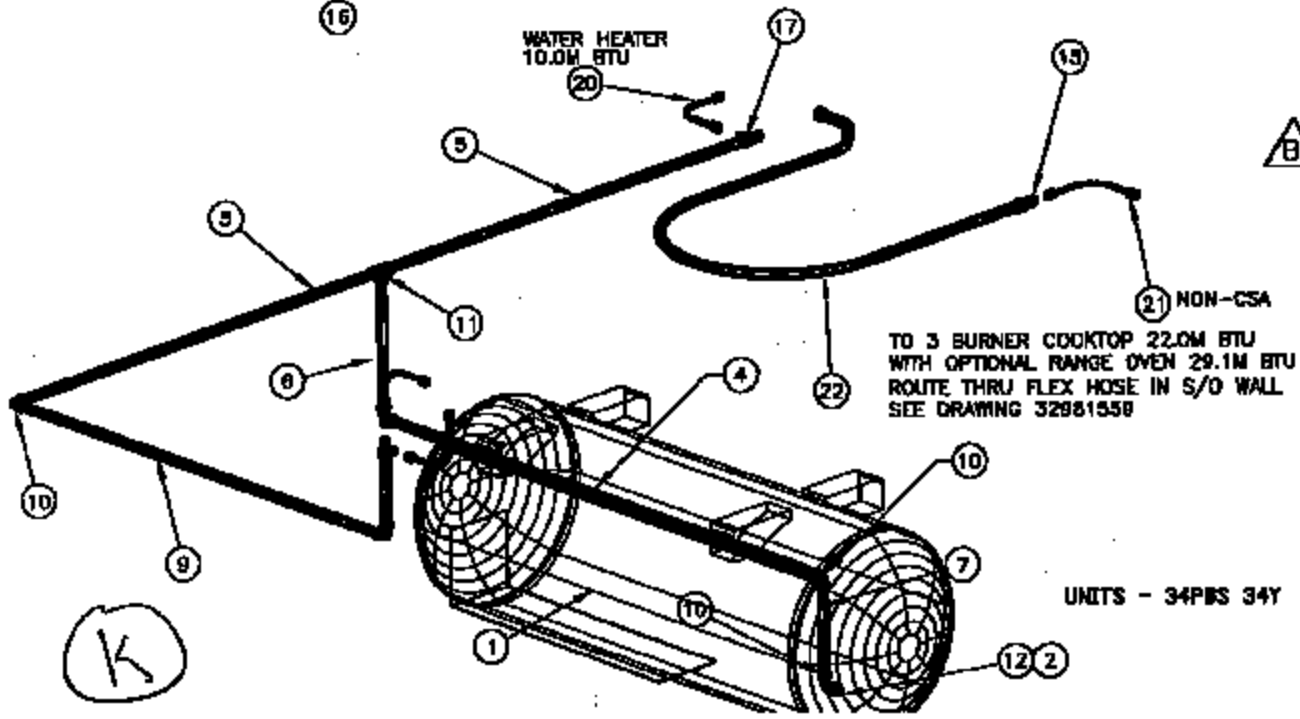
BILL OF MATERIAL

41010045 REV: B

- NOTES:
1. INSTALL CLAMP ITEM 3 FOR IRON PIPE PASSING THRU FLOOR. USE GROMMETS FOR COPPER LINES PASSING THRU FLOOR.
 2. .50 ID IRON PIPE RISERS TYP. .375 COPPER RISERS FOR CSA UNITS
 3. MAXIMUM DEVELOPED LENGTH - 33'-9". CSA UNITS - 34'-7".
 4. MAXIMUM BTU - 76.3M BTU
 5. LP GAS MAXIMUM VAPOR PRESSURE DOES NOT EXCEED 14.00 INCHES OF WATER COLUMN.
 6. BASED UPON TABLES 2-4.4 'C' AND 'D'.
 7. FOR CSA OPTION - ONLY IRON PIPE RISERS AND ROUTE LINES FROM BELOW FLOOR.



REV.	DESCRIPTION OF CHANGE	BY	DATE
1	RELEASE TO PRODUCTION	J.M	08-11-03
2	UPDATED FOR PART NUMBER	J.M	11-28-03



CSA UNITS
CSA UNITS

21	COPPER TUBE, .375 OD X 24.00 TANGE	19200800	1	1
19	COPPER TUBE, .375 OD X 18.00 REFER FURNACE	19200800	2	1
20	FLEX HOSE S/O 20.00	10620743	1	1
21	COPPER TUBE, .375 OD X 12.00 TANGE	19200800	1	1
20	COPPER TUBE, .375 OD X 14.00 WATER HEATER	19200800	1	1
19	COPPER TUBE, .375 OD X 60.00 REFER FURNACE	19200800	2	1
18	FORGED NUT .375 FL	19501110	8	1
17	FTG. BRASS TEE .375L X .375FL X .375FL	19502793	1	1
16	FTG. BRASS TEE .375FL X .375FL X .375FL	19504000	1	1
15	FTG. BRASS UNION .50 FL X .375 FL	19501507	1	1
14	FTG. BRASS UNION .375FL X .375 FL	19506520	1	1
13	FTG. BRASS UNION .375FL X .375FL	19503200	1	1
12	FTG. BRASS UNION .375FL X .375FL 40FT	19503100	1	1
11	FTG. IRON TEE .50 ID	19401500	2	2
10	FTG. IRON ELBOW .50 FPT	19400600	5	3
9	IRON PIPE, .50 ID X 38.50	19102100	1	1
8	IRON PIPE, .50 ID X 26.75	19102100	1	1
7	IRON PIPE, .50 ID X 6.00	19102100	2	1
6	IRON PIPE, .50 ID X 18.50	19102100	1	1
5	IRON PIPE, .50 ID X 36.00	19102100	2	1
4	IRON PIPE, .50 ID X 46.00	19102100	1	1
3	CLAMP, .75 OD NIG	08407609	1	1
2	FLEX HOSE, .375 ID X 24.00	04100173	1	1
1	TANK, LP 16.00 X 48.00	10621171	1	1
ITEM	DESCRIPTION	PART NO	QTY.	CSA

UNITS - 34PBS 34Y

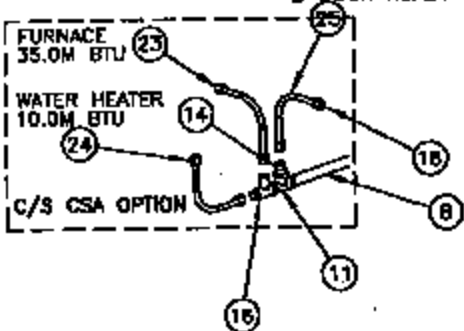
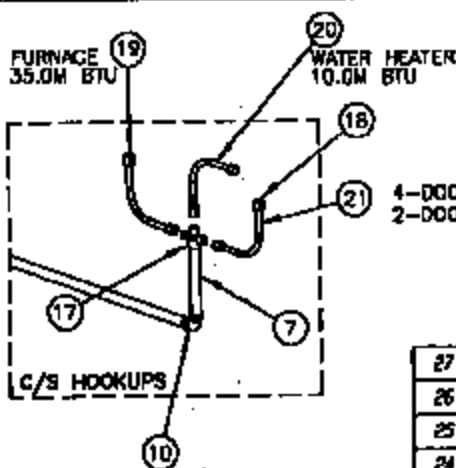
BILL OF MATERIAL

41010046 REV B

NOTES:

1. INSTALL CLAMP ITEM 3 FOR IRON PIPE PASSING THRU FLOOR.
2. USE GROMMETS FOR COPPER LINES PASSING THRU FLOOR.
3. .50 ID IRON PIPE RISERS TYP. .375 COPPER RISERS FOR CSA UNITS
4. MAXIMUM DEVELOPED LENGTH - 34'-3". CSA UNITS - 34'-7".
5. MAXIMUM BTU - 75.3M BTU
6. LP GAS MAXIMUM VAPOR PRESSURE DOES NOT EXCEED 14.00 INCHES OF WATER COLUMN.
7. BASED UPON TABLES 2-4.4 'C' AND 'D'.
8. FOR CSA OPTION - OMIT IRON PIPE RISERS AND ROUTE LINES FROM BELOW FLOOR.

4-DOOR REFER 2.2M BTU
2-DOOR REFER 1.5M BTU



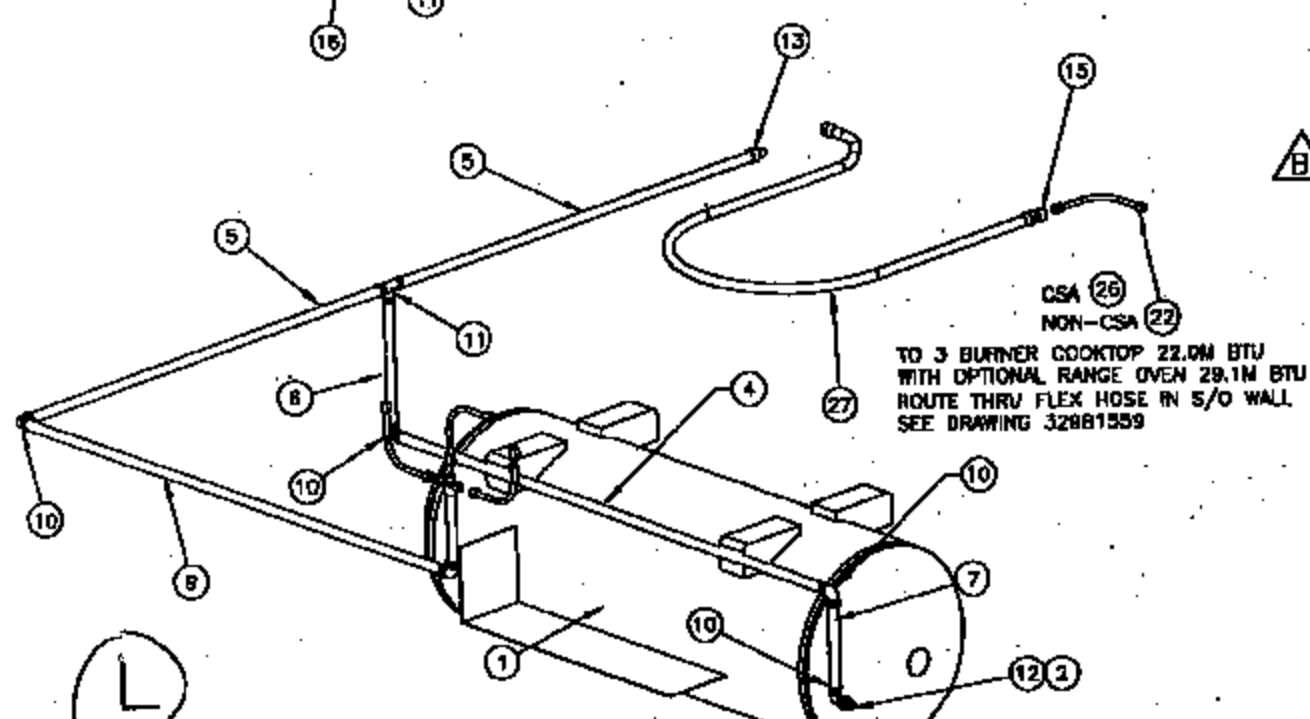
REV.	DESCRIPTION OF CHANGE	BY	DATE
A	RELEASE TO PRODUCTION	LB	10-11-04
B	UPDATED FOR PART NAMEY	LB	8-18-04

4-DOOR REFER 2.2M BTU
2-DOOR REFER 1.5M BTU

27	FLEX HOSE 5/8 28300	18626743	1	1
26	COPPER TUBE, .375 OD X 24.00 RANGE	19200200	--	1
25	COPPER TUBE, .375 OD X 130.00 REFER	19200200	--	1
24	COPPER TUBE, .375 OD X 86.00 WATER HEATER	19200200	--	1
23	COPPER TUBE, .375 OD X 100.00 FURNACE	19200200	--	1
22	COPPER TUBE, .375 OD X 12.00 RANGE	19200200	1	--
21	COPPER TUBE, .375 OD X 130.00 REFER	19200200	1	--
20	COPPER TUBE, .375 OD X 62.00 WATER HEATER	19200200	1	--
19	COPPER TUBE, .375 OD X 60.00 FURNACE	19200200	1	--
18	FORCED NUT 3/8 FL.	19501110	8	8
17	FTG. BRASS CRV 3/8L X 5/8PT X 3/8FL	19504000	1	--
16	FTG. BRASS TEE 3/8L X 5/8PT X 3/8FL	19503800	--	1
15	FTG. BRASS UNION 5/8 FL X 3/8 FL	19501507	1	1
14	FTG. BRASS UNION 5/8PT X 3/8 FL	19506320	--	1
13	FTG. BRASS UNION 5/8PT X 5/8FL	19503200	1	1
12	FTG. BRASS UNION 5/8PT X 5/8FL 497	19503100	1	1
11	FTG. BRON TEE 5/8 ID	19401500	2	2
10	FTG. BRON ELBOW 5/8 FPT	19400600	3	3
9	IRON PIPE, 5/8 ID X 19.00	19102100	1	--
8	IRON PIPE, 5/8 ID X 26.75	19102100	--	1
7	IRON PIPE, 5/8 ID X 6.00	19102100	2	1
6	IRON PIPE, 5/8 ID X 12.00	19102100	1	1
5	IRON PIPE, 5/8 ID X 36.00	19102100	2	1
4	IRON PIPE, 5/8 ID X 46.00	19102100	1	1
3	CLAMP, .75 OD NIG	08487689	1	1
2	FLEX HOSE, .375 LB X 24.00	04100173	1	1
1	TANK, LP 16.00 X 48.00	18621171	1	1
ITEM	DESCRIPTION	PART NO.	QTY.	CSA

B

CSA (25)
NON-CSA (22)
TO 3 BURNER COOKTOP 22.0M BTU
WITH OPTIONAL RANGE OVEN 29.1M BTU
ROUTE THRU FLEX HOSE IN 5/O WALL
SEE DRAWING 328B1559



BILL OF MATERIAL

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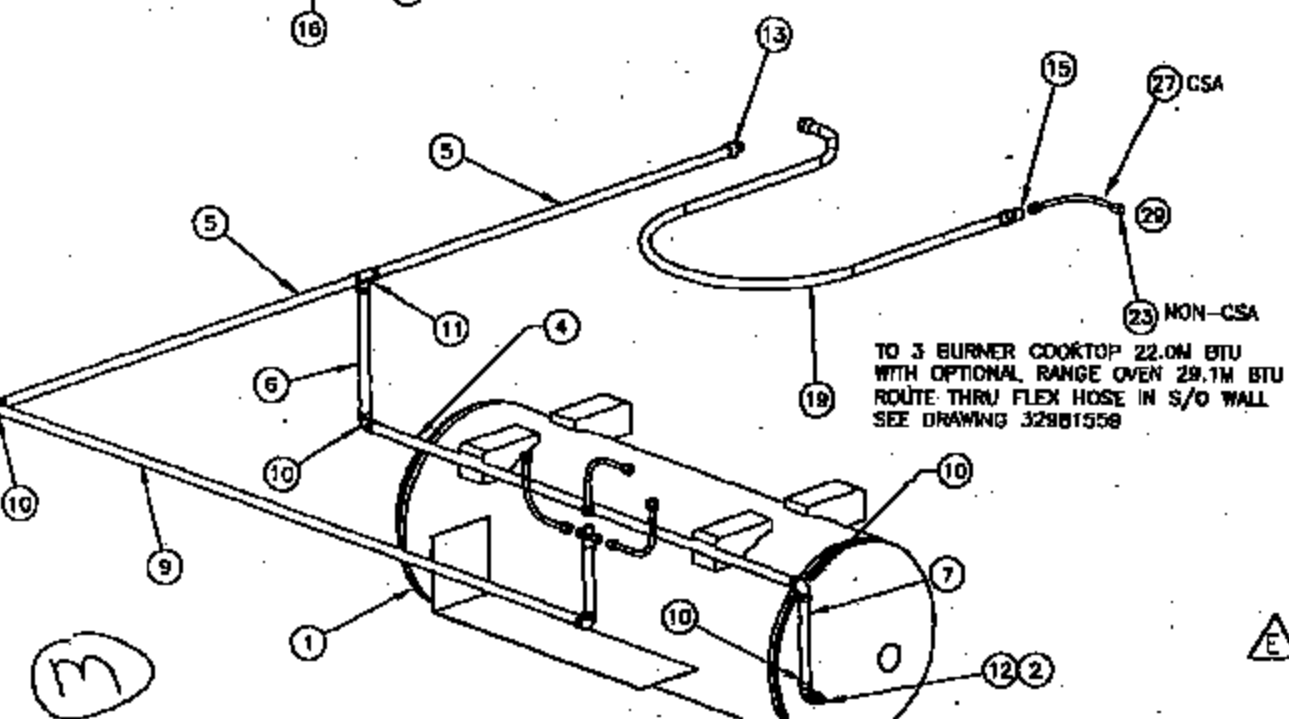
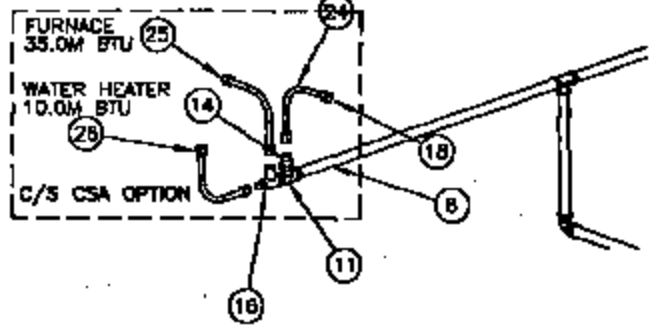
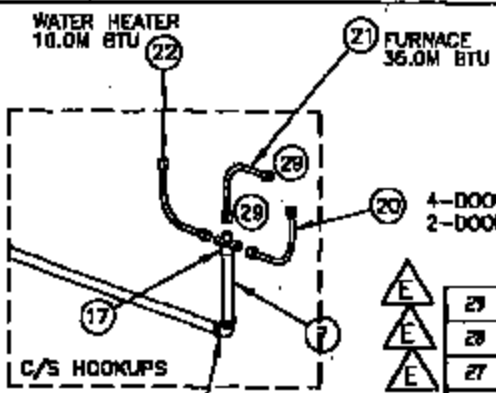
MONACO COACH CORP
HOLIDAY RAMBLER
DO NOT SCALE DRAWING

TITLE: LAYOUT, LP MANIFOLD
SHEET: 1 OF 1
REV: B
41010046

41010031 REV E

NOTES:
 INSTALL CLAMP ITEM 3 FOR IRON PIPE PASSING THRU FLOOR.
 USE GROMMETS FOR COPPER LINES PASSING THRU FLOOR.
 .50 ID IRON PIPE RISERS TYP. .375 COPPER RISERS FOR CSA UNITS
 MAXIMUM DEVELOPED LENGTH - 36'-11". CSA UNITS - 35'-3".
 MAXIMUM BTU - 76.3M BTU
 LP GAS MAXIMUM VAPOR PRESSURE DOES NOT EXCEED 14.00
 INCHES OF WATER COLUMN.
 BASED UPON TABLES 5.4.4
 FOR CSA OPTION - OMIT IRON PIPE RISERS AND ROUTE LINES FROM
 BELOW FLOOR.

4-DOOR REFER 2.2M BTU
 2-DOOR REFER 1.5M BTU



TO 3 BURNER COOKTOP 22.0M BTU
 WITH OPTIONAL RANGE OVEN 29.1M BTU
 ROUTE THRU FLEX HOSE IN S/O WALL
 SEE DRAWING 32981558

REV.	DESCRIPTION OF CHANGE	BY	DATE
1	RELEASE PROTOTYPE BUILD PER PCB	B.W	05-11-00
A	CHANGE FLEX HOSE LENGTH NEW SET WAS 24"	B.W	05-11-00
B	ADDED SUPPLY SIDE TO USAGE	B.W	05-03-00
C	UPDATED NON PART NUMBER	B.W	01-18-00
D	UPDATED NON PART NUMBER ITEM 1	B.W	01-17-00
E	CONNECTED B.V.G. TO USE 1/2" COPPER WHERE NEEDED	DN	4/7/03

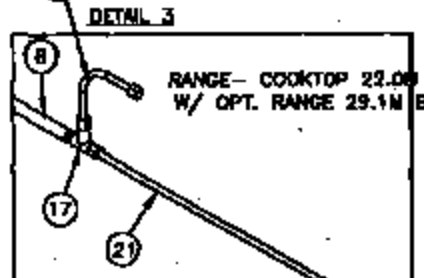
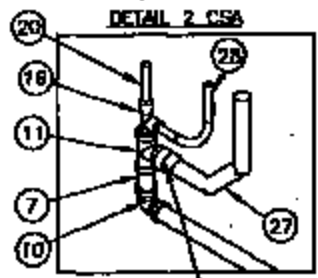
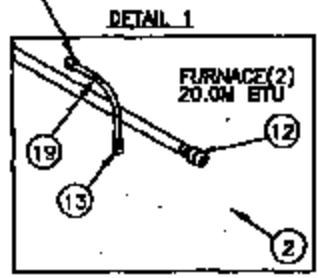
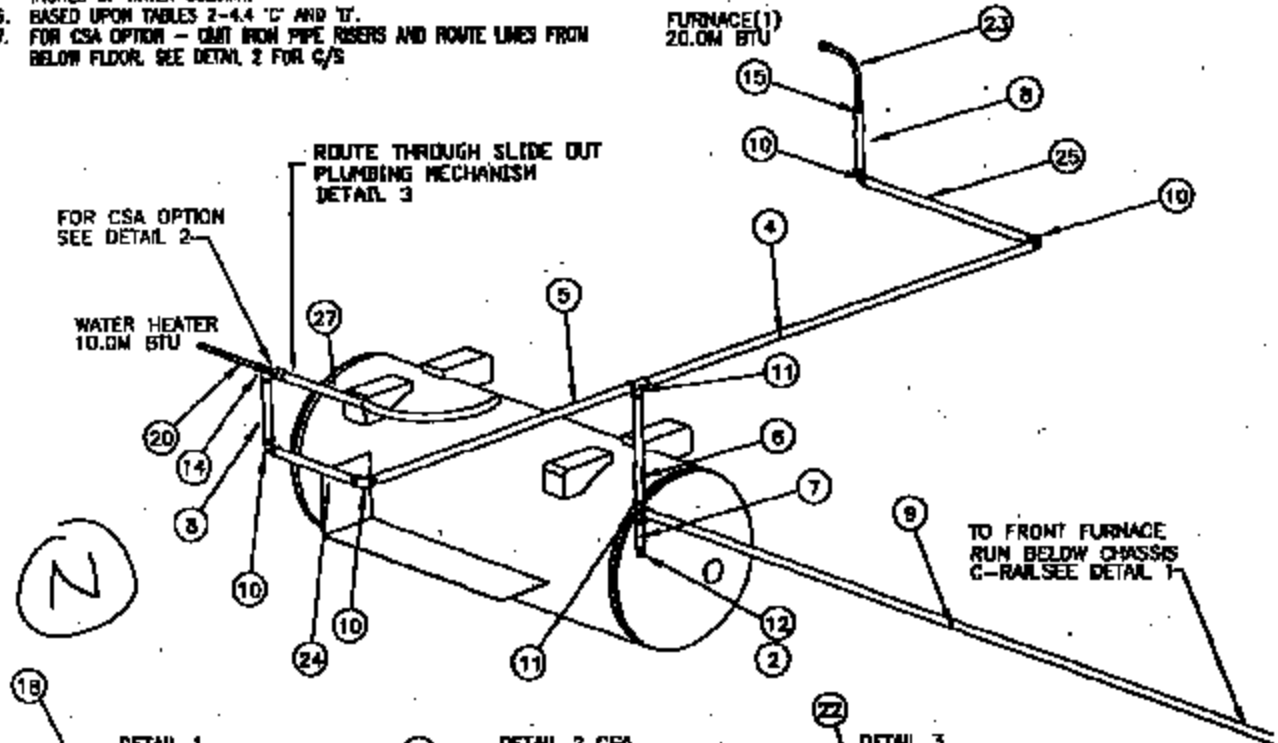
USAGE - 36PBD, 38PBD

ITEM	DESCRIPTION	PART NO.	QTY.	CSA
29	FTG. ADAPTER .5FL X .375 FPT	799	3	
28	FORGED NUT 1/2 FL	82223	--	
27	COPPER TUBE, 5 OD X 24.00 RANGE	6539	--	1
26	COPPER TUBE, .375 OD X 86.00 WATER HEATER	19206200	--	1
25	COPPER TUBE, .500 OD X 120.00 FURNACE	6539	--	1
24	COPPER TUBE, .375 ID X 132.00 REFER	19206200	--	1
23	COPPER TUBE, 5 OD X 12.00 RANGE	6539	1	--
22	COPPER TUBE, .375 OD X 130.00 WATER HEATER	19206200	1	--
21	COPPER TUBE, .500 OD X 60.00 FURNACE	6539	1	--
20	COPPER TUBE, .375 OD X 62.00 REFER	19206200	1	--
19	FLEX HOSE 5/8 203.00	18628743	1	1
18	FORGED NUT .375 FL	19501100	8	1
17	FTG. BRASS CTS .375FL X .50FPT X .375FL	19504400	1	--
16	FTG. BRASS TEE .375FL X .50FPT X .375FL	19503800	--	1
15	FTG. BRASS UNION .50 FL X .375 FL	19501507	1	1
14	FTG. BRASS UNION .50FPT X .375 FL	19506528	--	1
13	FTG. BRASS UNION .50FPT X .50FL	19503200	1	1
12	FTG. BRASS UNION .50FPT X .50FL 48FT	19503100	1	1
11	FTG. IRON TEE .50 ID	19401504	2	2
10	FTG. IRON ELBOW .500 FPT	19400604	5	3
9	IRON PIPE, .50 TB X 62.50	19102100	1	--
8	IRON PIPE, .50 TB X 26.75	19102100	--	1
7	IRON PIPE, .50 TB X 6.00	19102100	2	1
6	IRON PIPE, .50 TB X 12.00	19102100	1	1
5	IRON PIPE, .50 TB X 36.00	19102100	2	1
4	IRON PIPE, .50 TB X 46.00	19102100	1	1
3	CLAMP, .75 OD HTG	88407689	1	1
2	FLEX HOSE, .375 ID X 24.00	04100173	1	1
1	TANK, LP 16.00 X 48.00	18621171	1	1

BILL OF MATERIAL

4101062 REV 3

- NOTES:
1. INSTALL CLAMP ITEM 3 FOR IRON PIPE PASSING THRU FLOOR. USE DROMMETS FOR COPPER LINES PASSING THRU FLOOR.
 2. .50 ID IRON PIPE RISERS TYP. .375 COPPER RISERS FOR CSA UNITS
 3. MAXIMUM DEVELOPED LENGTH - 20'-1"
 4. MAXIMUM BTU - 61.3
 5. LP GAS MAXIMUM VAPOR PRESSURE DOES NOT EXCEED 14.00 INCHES OF WATER COLUMN.
 6. BASED UPON TABLES 2-4.4 "C" AND "D".
 7. FOR CSA OPTION - OMIT IRON PIPE RISERS AND ROUTE LINES FROM BELOW FLOOR. SEE DETAIL 2 FOR C/S



REV.	DESCRIPTION OF CHANGE	BY	DATE
1	RELEASE TO PRODUCTION	DTT	1/28/04
2	REMOVED FROM PRINT	CM	8/7/04
3	ADDED OPTION FOR CSA UNITS	CM	3/16/04

28	FLEX HOSE, .375 OD 100'	-	1
27	FLEX HOSE 3/4 140' (200'cm)	10620735	1
26	FTG. BRASS 1/2" FL X 1/2" FPT UNION	19802521	1
25	IRON PIPE, .50 ID X 4'	19802100	1
24	IRON PIPE, .50 ID X 11 1/2'	19802100	1
23	COPPER TUBE, .375 OD X 40' FURNACE(1)	19800200	1
22	COPPER TUBE, .375 OD X 77' RANGE	19800200	1
21	COPPER TUBE, .375 OD X 90' REFER	19800200	1
20	COPPER TUBE, .375 OD X 142' (162'cm) W/H	19800200	1
19	COPPER TUBE, .375 OD X 4' FURNACE(2)	19800200	1
18	FORGED NUT .375 FL	19800110	10
17	FTG. BRASS TEE .375FL X .50FPT X .375FL	19804000	1
16	FTG. BRASS TEE .375FL X .50FPT X .375FL	19803800	-
15	FTG. BRASS UNION .375 X .50 FPT	19802200	1
14	FTG. BRASS TEE .50FPT X .375FL X .50FL	19802495	1
13	FTG. BRASS UNION .50FPT X .375FL	19806320	1
12	FTG. BRASS UNION .50FPT X .50FL 40FT	19800100	1
11	FTG. BRASS TEE .50 ID	19800500	3
10	FTG. BRASS ELBOW .500 FPT	19800600	4
9	IRON PIPE, .50 ID X 149'	19802100	1
8	IRON PIPE, .50 ID X 6'	19802100	2
7	IRON PIPE, .50 ID X 2'	19802100	2
6	IRON PIPE, .50 ID X 20'	19802100	1
5	IRON PIPE, .50 ID X 26 1/2'	19802100	1
4	IRON PIPE, .50 ID X 61.00	19802100	1
3	CLAMP, .75 OD NTS	00407609	2
2	FLEX HOSE, .375 ID X 100'	10620043	1
1	TANK, LP 16.00 X 48.00	10620171	1
ITEM	DESCRIPTION	PART NO.	QTY.

BILL OF MATERIAL

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 CHECKED BY: [blank]
 UNLESS SPECIFIED OTHERWISE ALL DIMENSIONS ARE IN INCHES
 DATE: 08 JUN 04
 PROJECT: 3040 DE HOLIDAY R

MONACO COACH CORP.
 HOLIDAY RAMBLER
 DO NOT SCALE DRAWING

TITLE: LAYOUT, LP MANDROL
 SHEET: 1 OF 1
 DWG NO: 41010062
 REV: 3

41020069

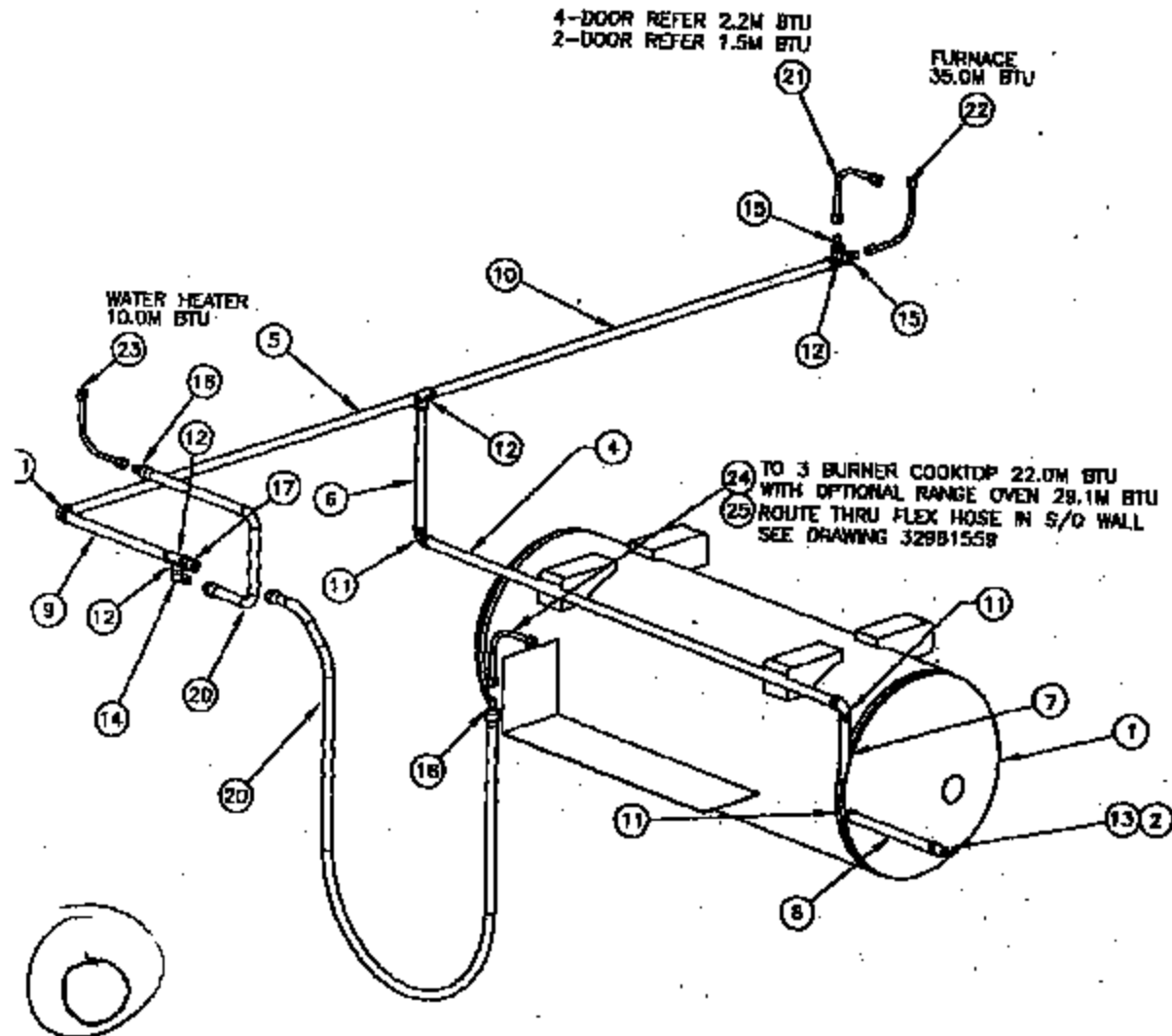
REV 2

NOTES:

1. INSTALL CLAMP ITEM 3 FOR IRON PIPE PASSING THRU FLOOR. USE GROMMETS FOR COPPER LINES PASSING THRU FLOOR.
2. 50 ID IRON PIPE RISERS TYP. 3/75 COPPER RISERS FOR CSA UNITS
3. MAXIMUM DEVELOPED LENGTH - 41'-10"
4. MAXIMUM BTU - 78.3M BTU
5. LP GAS MAXIMUM VAPOR PRESSURE DOES NOT EXCEED 14.00 INCHES OF WATER COLUMN.
6. BASED UPON TABLES 2-4.4 'C' AND 'D'.

USAGE - 34PST
2003 CAY NEP BAR
2002 KN AM

REV.	DESCRIPTION OF CHANGE	BY	DATE
1	RELEASE FRONT TYP. BUILT	JLB	
2	CHANGED RANGE, FURNACE	JMG	



CSA

ITEM	DESCRIPTION	PART NO.	QTY.
25	COPPER TUBE, 3/75 OD X 24.00 RANGE CSA	19208200	---
24	COPPER TUBE, 3/75 OD X 12.00 RANGE	19208240	1
23	COPPER TUBE, 3/75 OD X 15.00 WATER HEATER	19208230	1
22	COPPER TUBE, 3/75 OD X 72.00 FURNACE	19208220	1
21	COPPER TUBE, 3/75 OD X 90.00 REFER	19208210	1
20	FLEX HOSE S/A 20.00	88620743	2
19	FORGED NUT 3/75 FL	19501110	8
18			
17	FTG. BRASS UNION 5/8PT X 5/8FL	19503100	1
16	FTG. BRASS UNION 3/8 FL X 3/75 FL	19501307	2
15	FTG. BRASS UNION 5/8PT X 3/75 FL	19506520	2
14	FTG. BRASS UNION ELBOW 5/8PT X 5/8FL	19502800	1
13	FTG. BRASS UNION 5/8PT X 5/8FL 45FT	19503200	1
12	FTG. IRON TEE 3/8 LB	19401500	3
11	FTG. IRON ELBOW 5/8 FPT	19408600	4
10	IRON PIPE, 50 ID X 42.00	19102100	1
9	IRON PIPE, 50 ID X 12.00	19102100	1
8	IRON PIPE, 50 ID X 18.00	19102100	1
7	IRON PIPE, 50 ID X 6.00	19102100	1
6	IRON PIPE, 50 ID X 12.00	19102100	1
5	IRON PIPE, 50 ID X 36.00	19102100	1
4	IRON PIPE, 50 ID X 46.00	19102100	1
3	CLAMP, 75 OD RTG	88407689	1
2	FLEX HOSE, 3/75 ID X 24.00	04100173	1
1	TRAP, LP 3/8 X 48.00	10621171	1

BILL OF MATERIAL

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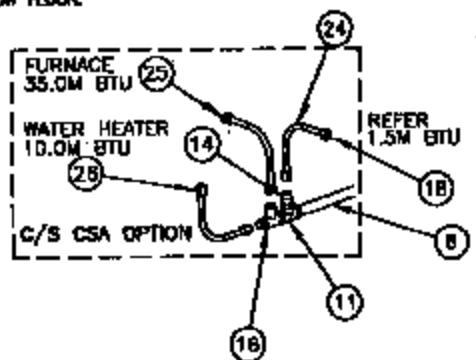
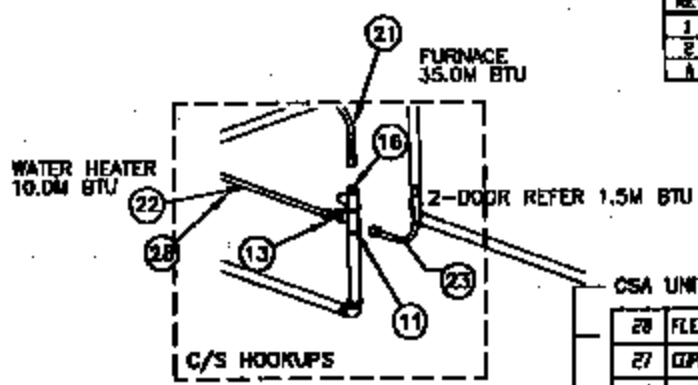
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MONACO COACH CORP
HOLIDAY RAMBLER
DO NOT SCALE DRAWING

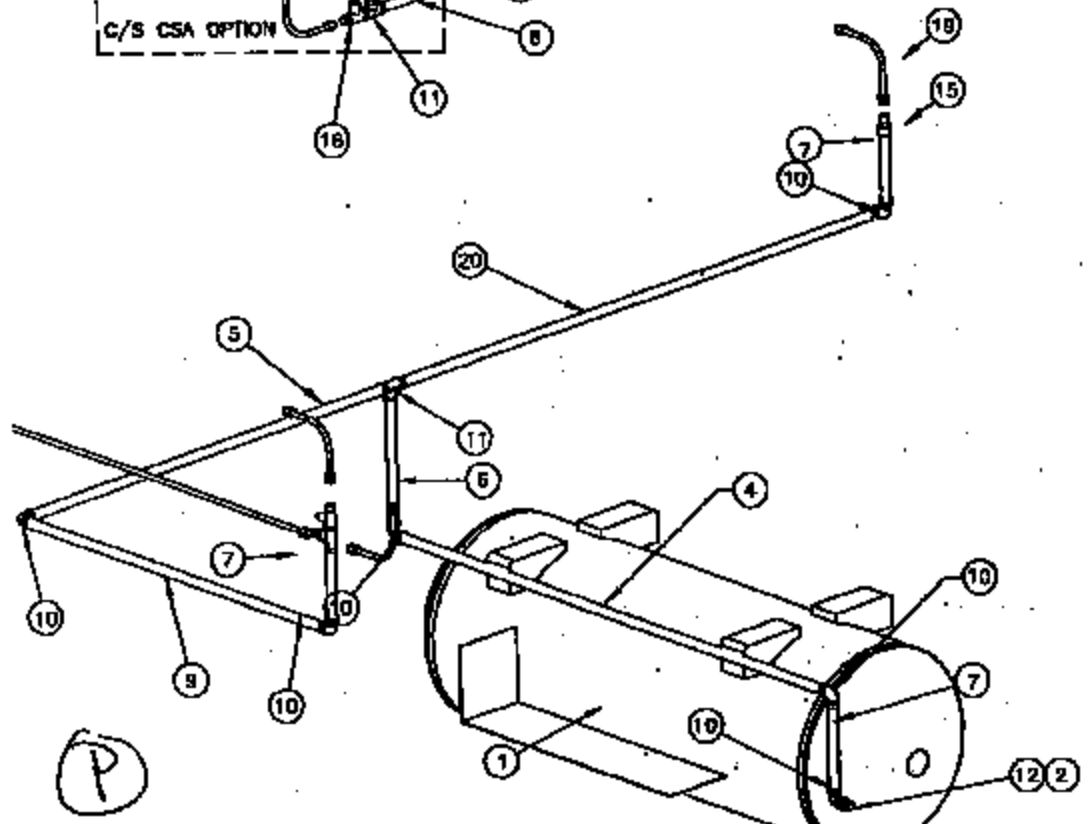
DATE: 11/17/04
SHEET 1 OF 1
REV 2
41020069

41020074 REV A

- NOTES:
1. INSTALL CLAMP ITEM 3 FOR IRON PIPE PASSING THRU FLOOR. USE GROMMETS FOR COPPER LINES PASSING THRU FLOOR.
 2. 5/8" IRON PIPE RISERS TYP. 3/8" COPPER RISERS FOR CSA UNITS
 3. MAXIMUM DEVELOPED LENGTH - 33'-7" CSA UNITS - 30'-6"
 4. MAXIMUM BTU - 76.3M BTU
 5. LP GAS MAXIMUM VAPOR PRESSURE DOES NOT EXCEED 14.00 INCHES OF WATER COLUMN.
 6. BASED UPON TABLES 2-4.4 'C' AND 'D'.
 7. FOR CSA OPTION - OMIT IRON PIPE RISERS AND ROUTE LINES FROM BELOW FLOOR.



RANGE- COOKTOP 22.0M BTU
W/ OPT. RANGE 29.1M BTU



REV.	DESCRIPTION OF CHANGE	BY	DATE
1	RELEASE PROTOTYPE BUILD	TGS	12-11-01
2	CHANGED FOR P AND S HANGUP	TGS	12-14-01
A	CHANGED FOR PRODUCTION	TGS	12-27-01

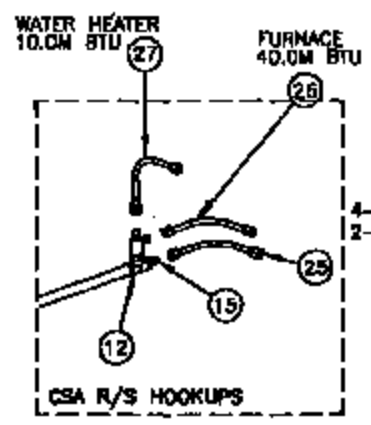
CSA UNITS

ITEM	DESCRIPTION	PART NO.	QTY.	CSA
28	FLEX HOSE, 5/8" ID X 24.00 L	18620743	1	1
27	COPPER TUBE, 3/8" OD X 10.00 RANGE	19200290	1	1
26	COPPER TUBE, 3/8" OD X 06.00 WATER HEATER	19200290	1	1
25	COPPER TUBE, 3/8" OD X 48.00 FURNACE	19200290	1	1
24	COPPER TUBE, 3/8" OD X 48.00 REFER	19200290	1	1
23	COPPER TUBE, 3/8" OD X 58.00 REFER	19200290	1	1
22	COPPER TUBE, 3/8" OD X 75.00 WATER HEATER	19200290	1	1
21	COPPER TUBE, 3/8" OD X 50.00 FURNACE	19200290	1	1
20	IRON PIPE, 5/8" ID X 58	19102190	1	1
19	COPPER TUBE, 3/8" OD X 180 RANGE	19200290	1	1
18	FORGED NUT 3/8" FL	19500110	8	1
17	FTG. BRASS CRB 3/8" FL X 5/8" FPT X 3/8" FL	19500400	1	1
16	FTG. BRASS TEE 3/8" FL X 5/8" FPT X 3/8" FL	19500380	1	1
15	FTG. BRASS UNION 5/8" FL X 3/8" FL	19500320	1	1
14	FTG. BRASS UNION 5/8" FPT X 3/8" FL	19500520	1	1
13	FTG. BRASS UNION 5/8" FPT X 5/8" FL	19500320	1	1
12	FTG. BRASS UNION 5/8" FPT X 5/8" FL FT	19500310	1	1
11	FTG. BRASS TEE 5/8" ID	19400580	2	2
10	FTG. BRASS ELBOW 5/8" FPT	19400680	3	3
9	IRON PIPE, 5/8" ID X 34	19102190	1	1
8	IRON PIPE, 5/8" ID X 26.75	19102190	1	1
7	IRON PIPE, 5/8" ID X 8.00	19102190	3	3
6	IRON PIPE, 5/8" ID X 12.00	19102190	1	1
5	IRON PIPE, 5/8" ID X 36	19102190	1	1
4	IRON PIPE, 5/8" ID X 46.00	19102190	1	1
3	CLAMP, 7/8" ID FTG	00407689	1	1
2	FLEX HOSE, 3/8" ID X 24.00	04180173	1	1
1	TANK, LP 16.00 X 48.00	18621171	1	1

BILL OF MATERIAL

41020059 REV 5

- NOTES:
1. INSTALL CLAMP ITEM 3 FOR IRON PIPE PASSING THRU FLOOR. USE GROMMETS FOR COPPER LINES PASSING THRU FLOOR.
 2. 3/8 ID IRON PIPE RISERS TYP. 3/75 COPPER RISERS FOR CSA UNITS
 3. MAXIMUM DEVELOPED LENGTH - 40'. CSA UNITS - 42'.
 4. MAXIMUM BTU - 81.3M BTU
 5. LP GAS MAXIMUM VAPOR PRESSURE DOES NOT EXCEED 14.00 INCHES OF WATER COLUMN.
 6. BASED UPON TABLES 5.4.4.
 7. FOR CSA OPTION - OMIT IRON PIPE RISERS AND ROUTE LINES FROM BELOW FLOOR IN OPEN AREA.

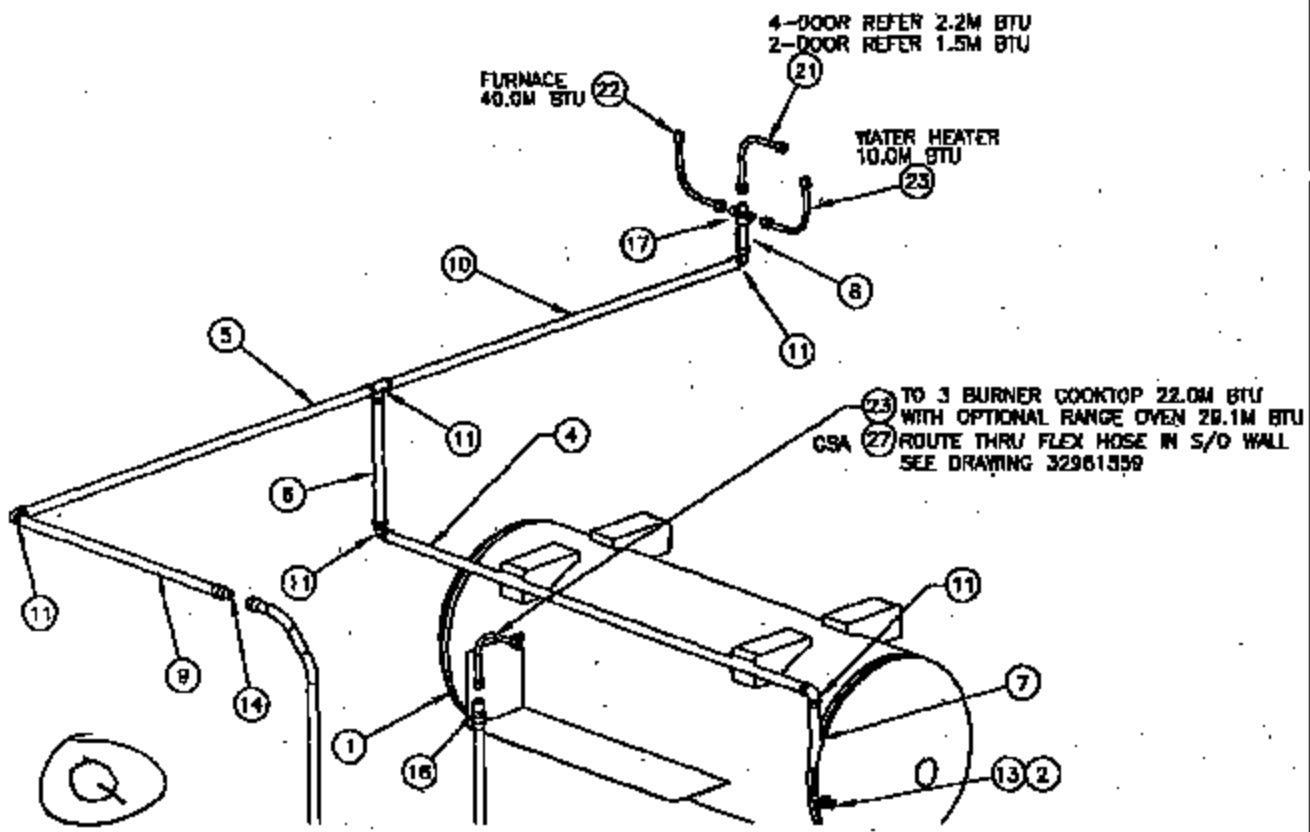


4-DOOR REFER 2.2M BTU
2-DOOR REFER 1.5M BTU

REV.	DESCRIPTION OF CHANGE	BY	DATE
1	RELEASE PROTOTYPE BOLD	DU	7/23/04
2	REVISED TO STANDARD LAYOUT THRU WHEEL-WEEL AREA	LJ	08-23-04
3	UPDATED AFTER PROTOTYPE	LJ	09-07-04
4	CHANGED PER PRODUCTION MARK UP	LJ	11-19-04
5	CHANGED PER PRODUCTION MARK UP	LJ	11-23-04

USAGE: 2002 36PST KNIGHT & AMBASSADOR
2003 36PST BARDON

28	COPPER TUBE, 3/75 OD X 24.00 RANGE	19200200	--	1
27	COPPER TUBE, 3/75 OD X 90.00 WATER HEATER	19200200	--	1
26	COPPER TUBE, 5/8 OD X 125.00 FURNACE	19200200	--	1
25	COPPER TUBE, 3/75 OD X 160.00 REFER	19200200	--	1
24	COPPER TUBE, 5/8 OD X 42.00 RANGE	19200200	1	--
23	COPPER TUBE, 3/75 OD X 85.00 WATER HEATER	19200200	1	--
22	COPPER TUBE, 5/8 OD X 120.00 FURNACE	19200200	1	--
21	COPPER TUBE, 3/75 OD X 156.00 REFER	19200200	1	--
20	FLEX HOSE 3/8 203.00	18620743	1	1
19	FORGED NUT 3/75 FL	19301118	8	1
18	FTG. BRASS TEE 3/75FL X 5/8PT X 3/75FL	19303600	1	--
17	FTG. BRASS CRV 3/75FL X 5/8PT X 3/75FL	19303566	1	--
16	FTG. BRASS UNION 3/8 FL X 3/75 FL	19303587	1	1
15	FTG. BRASS UNION 5/8PT X 3/75 FL	19306520	--	1
14	FTG. BRASS UNION 5/8PT X 5/8FL	19303200	1	1
13	FTG. BRASS UNION 5/8PT X 3/8FL 49FF	19303160	1	1
12	FTG. IRON TEE 5/8 LB	19401580	1	1
11	FTG. IRON ELBOW 3/8 FPT	19400600	5	5
10	IRON PIPE, 3/8 LB X 42.00	19102100	1	1
9	IRON PIPE, 3/8 LB X 22.00	19102100	1	1
8	IRON PIPE, 3/8 LB X 3.00	19102100	--	1
7	IRON PIPE, 3/8 LB X 6.00	19102100	1	1
6	IRON PIPE, 3/8 LB X 12.00	19102100	1	1
5	IRON PIPE, 3/8 LB X 36	19102100	1	1
4	IRON PIPE, 3/8 LB X 46.00	19102100	1	1
3	CLAMP, .75 OD WTG	08407689	1	1
2	FLEX HOSE, 3/75 I.D. X 24.00	04180173	1	1
1	TANK, LP 16.00 X 48.00	18621171	1	1
ITEM	DESCRIPTION	PART NO.	QTY.	CSA



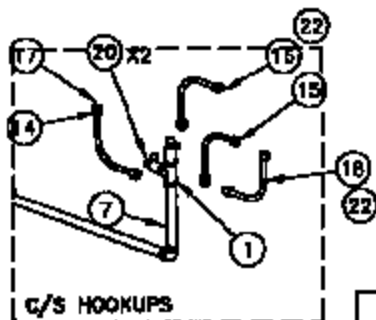
BILL OF MATERIAL

41020076 REV B

WATER HEATER
10M BTU

FURNACE
35M BTU

REV.	DESCRIPTION OF CHANGE	BY	DATE
1	RELEASE PROTOTYPE MARK	TBE	08-07-02
2	REVISED PER DAD MARK UP	TBE	08-29-02
3	ADDED 1/2" COPPER TO RUN	TBE	03-14-02
4	CORRECTED PART NUMBERS FOR 1/2" COPPER	CR	11/19/02



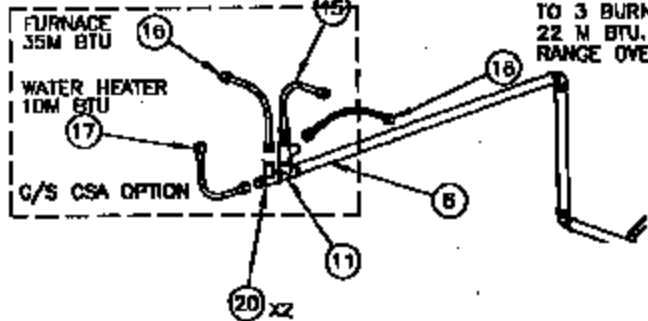
4-DOOR REFER 2.2 M BTU
2-DOOR REFER 1.5 M BTU

RANGE

INSTALL CLAMP ITEM 3 FOR IRON PIPE PASSING THRU FLOOR.
USE GROMMETS FOR COPPER LINES PASSING THRU FLOOR.
1/2" ID IRON PIPE RISERS TYP. 3/8" COPPER RISERS FOR CSA UNITS
MAXIMUM DEVELOPED LENGTH - 23'. CSA UNITS - 23'.
MAXIMUM BTU - 76.3M BTU
LP GAS MAXIMUM VAPOR PRESSURE DOES NOT EXCEED 14
INCHES OF WATER COLUMN.
BASED UPON TABLES 5.4.4
FOR CSA OPTION - OMIT IRON PIPE RISERS AND ROUTE LINES FROM
BELOW FLOOR.

4-DOOR REFER 2.2M BTU
2-DOOR REFER 1.5 M BTU

TO 3 BURNER COOKTOP
22 M BTU, OPTIONAL
RANGE OVEN 29.1 M BTU



CSA ONLY

ITEM	DESCRIPTION	PART NO.	QTY.	CSA
18	COPPER TUBE, 1/2 OD X 70	RANGE	6539	1
17	COPPER TUBE, 3/8 OD X 120	WATER HEATER	19200200	1
16	COPPER TUBE, 1/2 OD X 65	FURNACE	6539	1
15	COPPER TUBE, 3/8 OD X 75	REFER	19802202	1
18	COPPER TUBE, 1/2 OD X 90	RANGE	6539	1
17	COPPER TUBE, 3/8 OD X 145	WATER HEATER	19200200	1
16	COPPER TUBE, 1/2 OD X 55	FURNACE	6539	1
15	COPPER TUBE, 1/2 OD X 65	REFER	19802202	1
22	FTG. BRASS ADAPTER 3/8 X 3/8 FPT		799	2
21	FTG. BRASS CR3 3/8FL X 1/2FPT X 3/8FL		19304000	1
20	FTG. BRASS TEE 3/8FL X 1/2FPT X 1/2FL		19802495	2
19	FTG. BRASS UNION 1/2 FL X 3/8 FL		19302507	1
22	FORGED NUT 3/8 FL		82223	4
14	FORGED NUT 3/8 FL		19500110	4
13	FTG. BRASS UNION 1/2FPT X 1/2FL		19503200	1
12	FTG. BRASS UNION 1/2FPT X 1/2FL, 48FT		19503100	1
11	FTG. IRON TEE 1/2 TB		19481500	1
10	FTG. IRON ELBOW 1/2 FPT		19486600	5
9	IRON PIPE, 1/2 TB X 30		1902100	1
8	IRON PIPE, 1/2 TB X 26 3/4		1902100	1
7	IRON PIPE, 1/2 TB X 6		1902100	2
6	IRON PIPE, 1/2 TB X 12		1902100	1
5	IRON PIPE, 1/2 TB X 36		1902100	2
4	IRON PIPE, 1/2 TB X 46		1902100	1
3	CLAMP, 3/4 OD NTG		08497609	1
2	FLEX HOSE, 3/8 LD X 24		0400873	1
1	TANK, LP 16 X 48		10620177	1

BILL OF MATERIAL

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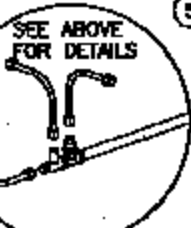
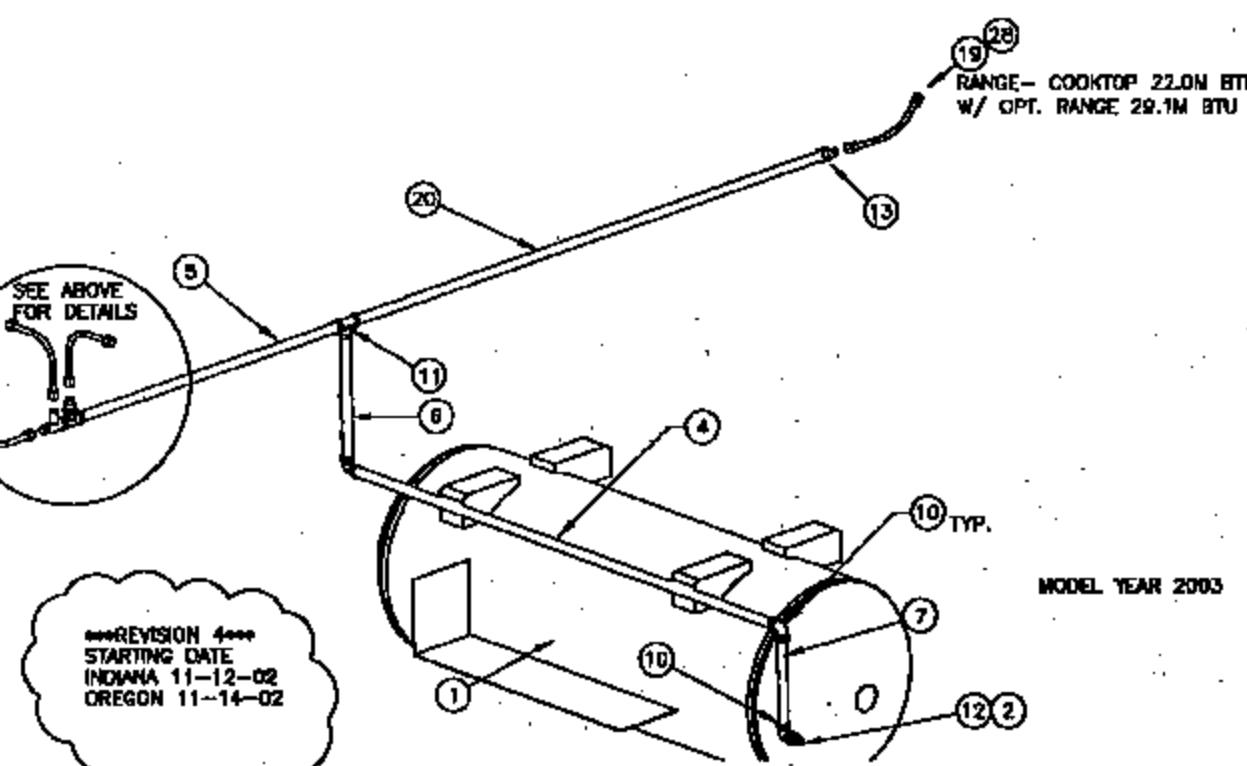
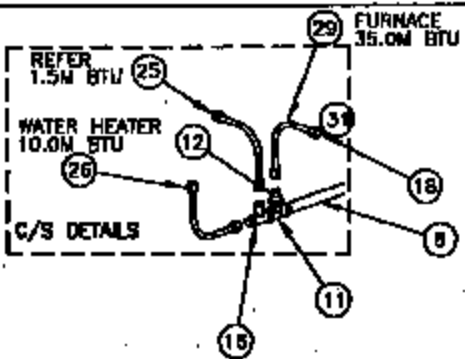
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SCALE: AS SHOWN
DATE: 02-02-02

MONACO COACH CORP.
HOLIDAY RAMBLER
DO NOT SCALE DRAWING

TITLE: LAYOUT, LP RAMBLER
SHEET: 1 OF 1
DATE: 11/17/2004
REV: B

41030086 REV B

- NOTES:
1. INSTALL CLAMP ITEM 3 FOR IRON PIPE PASSING THRU FLOOR. USE GROMMETS FOR COPPER LINES PASSING THRU FLOOR.
 2. .50 ID IRON PIPE RISERS TYP. .375 COPPER RISERS FOR CSA UNITS
 3. MAXIMUM DEVELOPED LENGTH - 36'-7". CSA UNITS - 38'-7".
 4. MAXIMUM BTU - 76.3M BTU
 5. LP GAS MAXIMUM VAPOR PRESSURE DOES NOT EXCEED 14.00 INCHES OF WATER COLUMN.
 6. BASED UPON TABLES 5.4.4.
 7. FOR CSA OPTION - OMIT IRON PIPE RISERS AND ROUTE LINES FROM BELOW FLOOR.



REVISION 4
STARTING DATE
INDIANA 11-12-02
OREGON 11-14-02

5

REV.	DESCRIPTION OF CHANGE	BY	DATE
1	RELEASE PROTOTYPE BUILD	TMG	06-28-02
2	REVISED RANGE RISE AND ITER P9 AND A28 LEGS/PS	TMG	06-28-02
3	REVISED PER PRODUCTION DRAW LP	TMG	07-21-02
4	ELIMINATED ANOMALY FROM WHEEL WELL DR P/3	TMG	01-02-03
5	CHANGED #3 TO 3/8" FROM 3/4"	TMG	01-10-03
6	ADDED ONE 1/2" HUB BEHIND ONE 3/8"	TMG	01-23-03
7	COLLECTED FURNACE AND RANGE TO 1/2" ID COPPER	CSH	12/17/03

ITEM	DESCRIPTION	QTY	UNIT
31	FTG. ADAPTER 3/8FT X 1/2 NF	799	2
30	FORGED NUT 1/2 FL	82223	4
29	FLEX HOSE, 1/2 ID X 132 L	10620740	1
28	FLEX HOSE, 1/2 ID X 263 L	10620743	1
27	COPPER TUBE, 3/8 OD X 100	19200200	--
26	COPPER TUBE, 3/8 OD X 75 WATER HEATER	19200200	1
25	COPPER TUBE, 1/2 OD X 100 FURNACE	19200200	1
24	COPPER TUBE, 3/8 OD X 100 REFER	19200200	1
23	COPPER TUBE, 3/8 OD X 50	19200200	--
22	COPPER TUBE, 3/8 OD X 75	19200200	--
21	COPPER TUBE, 3/8 OD X 20	19200200	--
20	IRON PIPE, 1/2 ID X 47	1902100	1
19	COPPER TUBE, 1/2 OD X 10 RANGE	6539	1
18	FORGED NUT 3/8 FL	1900100	4
17	FTG. BRASS CRB 3/8FL X 1/8FT X 3/8FL	1900400	--
16	FTG. BRASS TEE 3/8FL X 1/8FT X 3/8FL	1900300	1
15	FTG. BRASS UNION 1/2 FL X 3/8 FL	1900320	--
14	FTG. BRASS UNION 1/8FT X 3/8 FL	1900650	--
13	FTG. BRASS UNION 1/8FT X 1/2FL	19003200	1
12	FTG. BRASS UNION 1/8FT X 1/2FL 40FT	19003100	1
11	FTG. IRON TEE 1/2 ID	19401500	2
10	FTG. IRON ELBOW 1/2 FPT	19400100	3
9	IRON PIPE, 1/2 ID X 29	1902100	--
8	IRON PIPE, 1/2 ID X 26 3/4	1902100	--
7	IRON PIPE, 1/2 ID X 8	1902100	1
6	IRON PIPE, 1/2 ID X 12	1902100	1
5	IRON PIPE, 1/2 ID X 32	1902100	1
4	IRON PIPE, 1/2 ID X 46	1902100	1
3	CLAMP, 3/4 OD RTG	08407603	1
2	FLEX HOSE, 3/8 ID X 24	04100173	1
1	TANK, LP 16 X 48	10620171	1

BILL OF MATERIAL

41 19 1 1992

ANSI A119.2

NFPA 1192

Standard of

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1999 Edition



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