

FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

42412-4914
DVT-300-D

1. Manufactured and certified by Littleford Day, Inc. 7451 Empire drive, PO Box 128, Florence, KY 41042
(Name and address of Manufacturer)
2. Manufactured for B F Goodrich P.O. Box 41256, Brecksville, OH 44141
(Name and address of Purchaser)
3. Location of installation B F Goodrich, 9921 Brecksville Road, Brecksville, OH 44141
(Name and address)
4. Type: Horizontal Jacketed Vessel 13323 -- 1000927 1584 1997
(Horiz., vert., or sphere) (Tank, separator, jkt. vessel, heat exh., etc.) (Mfg's serial No.) (CRN) (Drawing No.) (Nat'l. Bd. No.) (Year built)
5. ASME Code, Section VIII, Div. 1 1995, 1995 ----- -----
Edition and Addenda (date) Code Case No. Special Service per UG-120(d)
- Items 6 - 11 incl. to be completed for single wall vessels, jackets of jacketed vessels, shell of heat exchangers, or chamber of multi-chamber vessels.
6. Shell (a) No. of course(s): 1 (b) Overall length (ft & in.): 3' 1-9/16"

Course(s)			Material		Thickness		Long Joint (Cat. A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
No.	Diameter, in.	Length (ft. & in.)	Spec./Grade or Type		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	27-1/8" ID	3' 1-9/16"	SA240-316		3/8"	Nil	--	None	----	--	None	----	N/A	N/A

7. Heads: (a) None (b) None
(Mat'l Spec. No., Grade or Type) H.T.-Time & Temp (Mat'l Spec. No., Grade or Type) H.T.-Time & Temp
- | | Location (Top, Bottom, Ends) | Thickness | | Radius | | Elliptical Ratio | Conical Apex Angle | Hemispherical Radius | Flat Diameter | Side to Pressure | | Category A | | |
|-----|------------------------------|-----------|-------|--------|---------|------------------|--------------------|----------------------|---------------|------------------|---------|------------|------------------|------|
| | | Min. | Corr. | Crown | Knuckle | | | | | Convex | Concave | Type | Full, Spot, None | Eff. |
| (a) | | | | | | | | | | | | | | |
| (b) | | | | | | | | | | | | | | |

If removable, bolts used (describe other fastening) -----

8. Type of jacket Fig. 9-7 Jacket closure Ogee & Weld Fig. 9-5 (b-2)
(Mat'l Spec. No., Grade, size, No.) (Describe as ogee & weld, bar, etc.)
- If bar, give dimensions ----- If bolted, describe or sketch
9. MAWP 150 ----- psi at max. temp. 400 ----- °F Min. design metal temp. 32 °F at 150 psi.
(internal) (external) (internal) (external)

10. Impact test No - per UHA 51 (d) & (e)
(Indicate yes or no and the component(s) impact tested)
11. Hydro., pneu., or comb. test press. 470 PSI Proof test UG101 (P)
Items 12 and 13 to be completed for tube sections.

12. Tubesheet:
- | Stationary (Mat'l Spec. No.) | Dia., in. (subject to press.) | Nom. thk., in. | Corr. Allow., in. | Attachment (welded or bolted) |
|------------------------------|-------------------------------|----------------|-------------------|-------------------------------|
| <u>-----</u> | <u>-----</u> | <u>-----</u> | <u>-----</u> | <u>-----</u> |
- | Floating (Mat'l Spec. No.) | Dia., in. | Nom. thk., in. | Corr. Allow., in. | Attachment |
|----------------------------|--------------|----------------|-------------------|--------------|
| <u>-----</u> | <u>-----</u> | <u>-----</u> | <u>-----</u> | <u>-----</u> |

13. Tubes:
- | Mat'l Spec. No., Grade or Type | O.D., in. | Nom. thk., in. or gauge | Number | Type (Straight or U) |
|--------------------------------|--------------|-------------------------|--------------|----------------------|
| <u>-----</u> | <u>-----</u> | <u>-----</u> | <u>-----</u> | <u>-----</u> |
- Items 14 - 18 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers.

14. Shell (a) No. of course(s): 1 (b) Overall length (ft & in.): 3' 3-3/8"

Course(s)			Material		Thickness		Long Joint (Cat. A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
No.	Diameter, in.	Length (ft. & in.)	Spec./Grade or Type		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	24 7/8" ID	3' 3-3/8"	SA240-316		3/8"	Nil	1	None	70%	--	None	----	N/A	N/A

15. Heads: (a) SA240-316 HT-NA (b) SA240-316 HT-NA
(Mat'l Spec. No., Grade or Type) H.T.-Time & Temp (Mat'l Spec. No., Grade or Type) H.T.-Time & Temp
- | | Location (Top, Bottom, Ends) | Thickness | | Radius | | Elliptical Ratio | Conical Apex Angle | Hemispherical Radius | Flat Diameter | Side to Pressure | | Category A | | |
|-----|------------------------------|-----------|-------|--------|---------|------------------|--------------------|----------------------|---------------|------------------|---------|------------|------------------|------|
| | | Min. | Corr. | Crown | Knuckle | | | | | Convex | Concave | Type | Full, Spot, None | Eff. |
| (a) | Left | 1" | Nil | -- | -- | ---- | ---- | ---- | 27-1/8" ID | ---- | ---- | -- | None | ---- |
| (b) | Right | 1" | Nil | -- | -- | ---- | ---- | ---- | 27-1/8" ID | ---- | ---- | -- | None | ---- |

If removable, bolts used (describe other fastening) -----

(Mat'l Spec. No., Grade, Size, No.)

RR 1026.10

3. MAWP 50 150 psi at max. temp. 400 400 °F Min. design metal temp. 32 °F at 50 psi.
(internal) (external) (internal) (external)

17. Impact test No - per UHA 51 (d) & (e)

(Indicate yes or no and the component(s) impact tested)

18. Hydro., pneu., or comb. test press. 95 PSI

Proof test

19. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Reinforcement Material	How Attached		Location (Insp. Open)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Vapor Port	1	15-1/2"	#150 Pattern	SA240-316	SA240-316	1/4"	Nil	Inherent	UW16.1(a-2)	2-4(9)	Drum
Filtorr Pad	1	6"	Pad	SA240-316	-----	3"	Nil	Inherent	UW16.1(c)	-----	Drum
Charge Port	1	4"	CL #150 Flg.	SA312-316	SA182-316	.237	Nil	Inherent	UW16.1(c)	2-4(9)	Drum
Sight Glasses	2	4"	CL #150 Flg.	SA312-316	SA182-316	.237	Nil	Inherent	UW16.1(c)	2-4(9)	*1
Discharge	1	4"	-----	SA351-316	-----	.245	Nil	Inherent	UW16.1(c)	-----	Drum
Drain Port	1	2"	Pad	SA479-316	-----	2-1/2"	Nil	Inherent	UW16.1(c)	-----	*2
Relief Port	1	2"	CL #150 Flg.	SA312-316	SA182-316	.154	Nil	Inherent	UW16.1(c)	2-4(9)	Drum

20. Supports: Skirt Yes Lugs --- Legs 2 Others --- Attached Welded to Inner Drum
(Yes or No) (No.) (No.) (Describe) (Where and How)

21. Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report:

(List the name of part, item number, mfg's. name and identifying number)

22. Remarks: Jacketed Heads - Gun drilled and plugged. Test block# 1000899. Burst test #10. At acceptance 5/1/97. Jacket is for non-corrosive service only. Exempt from impact testing per UHA 51(d) & (e). Safety relief by user. *1-Vapor Port, *2-Right Head, *3 (4) Each Head, *4 (2) each head.

CERTIFICATE OF SHOP COMPLIANCE

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1,

U Certificate of Authorization No. 1.193 Expires Jan. 30, 19 98

Date 7/1/97 Name Littleford Day, Inc.

(Manufacturer)

Signed [Signature]
(Representative)

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Kentucky and employed by Commercial Union Insurance Co. of Boston, MA have inspected the pressure vessel described in this Manufacturer's Data Report on 7-1, 19 97, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 7-1-97 Signed [Signature] Commissions 10168B-My. 875
(Authorized Inspector) (Nat'l Board incl. endorsement, State, Province and No.)

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the statements on this report are correct and that the field assembly construction of all parts of this vessel conforms with the requirements of ASME Code, Section VIII, Division 1,

U Certificate of Authorization No. _____ Expires _____, 19 _____

Date _____ Name _____ Signed _____
(Assembler) (Representative)

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of _____ and employed by _____ of _____ have compared the statements in this Manufacturer's Data Report with the described pressure vessel and state that parts referred to as data items _____, not included in the certificate of shop inspection, have been inspected by me and to the best of my knowledge and belief, the Manufacturer has constructed and assembled this pressure vessel in accordance with ASME Code, Section VIII, Division 1. The described vessel was inspected and subjected to a hydrostatic test of _____ psi. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date _____ Signed _____ Commissions _____
(Authorized Inspector) (Nat'l Board incl. endorsement, State, Province and No.)

FORM U-4 MANUFACTURER'S DATA REPORT SUPPLEMENTARY SHEET

As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

42412-4914
DVT-300-D
Page 2 of 2

1. Manufactured and certified by Littleford Day, Inc. 7451 Empire drive, PO Box 128, Florence, KY 41042
(name and address of manufacturer)

2. Manufactured for B.F. Goodrich, P.O. Box 41256, Brecksville, OH 44141
(name and address of purchaser)

3. Location of installation B.F. Goodrich, 9921 Brecksville Road, Brecksville, OH 44141
(name and address)

4. Type: Horizontal Jacketed Vessel 13323
(horiz., vert., or sphere) (tank, separator, heat ex., etc.) (mfg's serial no.)

----- 1000927 1584 1997
(CRN) (drawing no.) (Nat'l. Bd. no.) (year built)

Data Report Item Number _____ Remarks _____

19. Nozzles, inspection, and safety valve openings:

Purpose (inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Reinforcement Material	How Attached		Location (Insp. Open)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Drain Port	1	1"	CL #150 LWN	SA182-316	-----	.500	Nil	Inherent	UW16.1(c)	-----	Drum
Thermowell	1	3/4"	CPLG	SA479-316	-----	.257	Nil	Inherent	UW16.1(c)	-----	Drum
Mount											
Liquid Feed	1	1"	CPLG	SA479-304	-----	.375	Nil	Inherent	UW16.1(c)	-----	Drum
Shaft Access	2	---	-----	Machined	Integrally	--	---	Inherent	-----	-----	Heads
Inlet/Outlets	6	1 1/2"	CL #150 FLG	SA312-316	SA182-316	.145	Nil	Inherent	UW16.1(c)	2-4(9)	Jacket
Inlet/Outlets	8	1/2"	CPLG	SA182-316	-----	3000#	Nil	Inherent	UW16.2(L)	-----	*3
Vents	4	3/8"	Thr'd	SA240-316	-----	--	Nil	Inherent	-----	-----	*4

Certificate of Authorization: Type U No. 1,193 Expires Jan. 30 19 98

Date 7/1/97 Name Littleford Day, Inc. Signed [Signature]
(manufacturer) (representative)

Date 7-1-97 Name [Signature] Commission 1016813-Hy. 875
(Authorized Inspector) (Nat'l. Board incl. endorsement, state, province and no.)

RR 1067.4