



U.S. Department of Transportation  
**Pipeline and Hazardous Materials  
Safety Administration**

1200 New Jersey Ave, SE  
Washington, D.C. 20590

APR - 1 2010

Lt. D. R. Shackelford  
Assistant MCSAP Administrator  
North Carolina State Highway Patrol  
4702 Mail Service Center  
Raleigh, NC 27699-4701

Ref. No. 10-0046

Dear Lt. Shackelford:

This responds to your November 13, 2009 email concerning the requirement of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) to secure packages in a motor vehicle. Specifically, you ask about securing propane cylinders in accordance with § 177.834.

According to your email, the propane cylinders are placed in recessed trays so that the base of each cylinder sits two inches below the horizontal edge of the tray. The trays may be stacked; however, whether stacked or unstacked, no tray or other device is placed on top of the cylinders. You provide pictures illustrating this method of securing the cylinders. Additionally, in a telephone conversation with a member of my staff, you noted that these trays are placed in a closed freight vehicle known a "mickey body" truck. It is your understanding from visual inspections that this method secures the cylinders against shifting, including overturning and ejection from the motor vehicle, under conditions normally incident to transportation and that the likelihood of damage to the cylinder valves is minimal. You ask if this method of securing the cylinders complies with § 177.834(a) or whether a locking ring or other device designed to secure the topmost cylinders is also needed.

Based on the information provided, it is the opinion of this Office that this method of securing the cylinders would achieve compliance with the general requirements of § 177.834(a) as well as the loading requirements specific to transport of Class 2 gases in § 177.840(a)(1). Therefore, so long as there is no shifting or overturning of the cylinders during normal transportation conditions, a locking ring or other method of securing the topmost cylinders is not required.

I hope this information is helpful. If you have further questions, please contact this office.

Sincerely,

Charles E. Betts  
Chief, Standards Development  
Office of Hazardous Materials Standards

**Drakeford, Carolyn (PHMSA)**

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**From:** Shackelford, Douglas R. [drshackelford@NCSHP.ORG]  
**Sent:** Friday, March 05, 2010 9:57 AM  
**To:** INFOCNTR (PHMSA)  
**Subject:** FW: Interpretation

Der Kinderen  
§177.834  
Loading and Unloading  
10-00 4p

Completed via phone by RB on 3/5 @ 1020 am

Dear Sir:

In November 2009, I sent the below information in for an Interpretation.

From conversation with folks that attended COMED it has been indicated the absence of the locking ring would not be required therefore resulting in a violation 177.834.

I have not heard back yet of the official interpretation from your Section.

Please advise.

Lieutenant Shackelford

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**From:** Shackelford, Douglas R.  
**Sent:** Friday, November 13, 2009 10:55 AM  
**To:** 'infocntr@dot.gov'  
**Subject:** Interpretation

Dear Sir:

I have a question in reference to 49CFR 177.834 when transporting 20lb propane gas cylinders. All the cylinders are stacked in approved recessed trays so the base of the cylinders about two inches deep. The next tray is placed on top of that row and so on, however the final tray or top tray of cylinders have no devise on the top but are still recessed about one and one half inches inside the tray.

I have pictures that can be sent or should I provide this question to another section of PHMSA?

Question:

Is a locking ring required to encompass the top tray or will it comply with 177.834 without the ring?

Thanks

*Lieutenant D. R. Shackelford*  
**North Carolina State Highway Patrol**  
**Motor Carrier Enforcement Section**  
**Assistant MCSAP Administrator**  
**Raleigh, North Carolina**

**Office: (919) 715-8683 FAX (919) 715-8196**

## **Drakeford, Carolyn (PHMSA)**

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**From:** Shackelford, Douglas R. [drshackelford@NCSHP.ORG]  
**Sent:** Friday, March 05, 2010 10:44 AM  
**To:** INFOCNTR (PHMSA)  
**Subject:** FW: Lexmark Scan Attachment  
**Attachments:** document2010-03-05-103004.pdf

Sir:

Please see the attached documents.

The first image is a picture of a locking ring designed by a private vender for use on the top rack of cylinders being transported however the question remains. Is it required to be utilized on the top rack when the cylinders are recessed in the bottom tray about two inches as indicated in the other images to be in compliance with 177.834a?

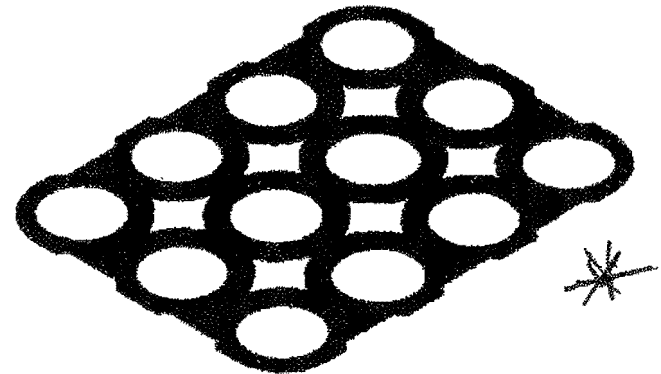
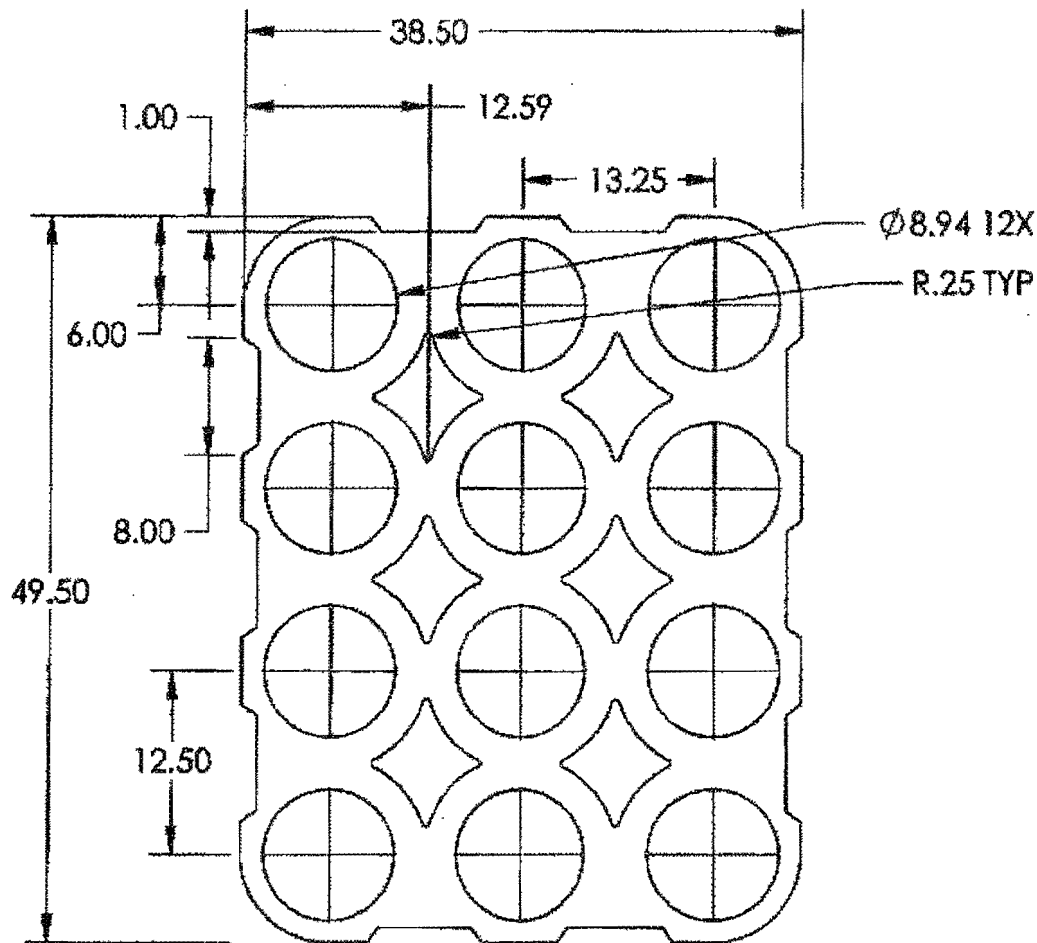
Thanks

Lieutenant Shackelford

-----Original Message-----

**From:**  
**Sent:** Friday, March 05, 2010 10:30 AM  
**To:** Shackelford, Douglas R.  
**Subject:** Lexmark Scan Attachment

DO NOT REPLY TO THIS EMAIL.



Is this  
required to be  
utilized on top  
cylinders for  
compliance of  
177.834a.

NOTE:  
THIS RING IS TO BE USED  
IN CONJUNCTION WITH  
TS4253 TRAYS

IF PRINTED, TO BE CONSIDERED AN UNCONTROLLED DOCUMENT

**PROPRIETARY AND CONFIDENTIAL**  
THE INFORMATION CONTAINED IN THIS  
DRAWING IS THE SOLE PROPERTY OF  
**TRAVEL STAR PRODUCTS**. ANY  
REPRODUCTION IN PART OR AS A WHOLE  
WITHOUT THE WRITTEN PERMISSION OF  
**TRAVEL STAR PRODUCTS** IS PROHIBITED.

CAVITIES / TOOL TOOL DATE  
TOOL MATERIAL  
TOOL OWNER

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
TOLERANCES:  
FRACTIONAL: 1/16  
ANGULAR: +/- 1°  
ONE PLACE DECIMAL +/- .125  
TWO PLACE DECIMAL +/- .063  
THREE PLACE DECIMAL +/- .015

INTERPRET GEOMETRIC  
TOLERANCING PER:  
MATERIAL STARTING THICKNESS  
.187" BLACK PE

FINISH  
SMOOTH - SMOOTH  
DO NOT SCALE DRAWING

DRAWN  
CHECKED  
ENG APPR.  
MFG APPR.  
Q.A.  
COMMENTS:

NAME DATE  
REV 5/21/08

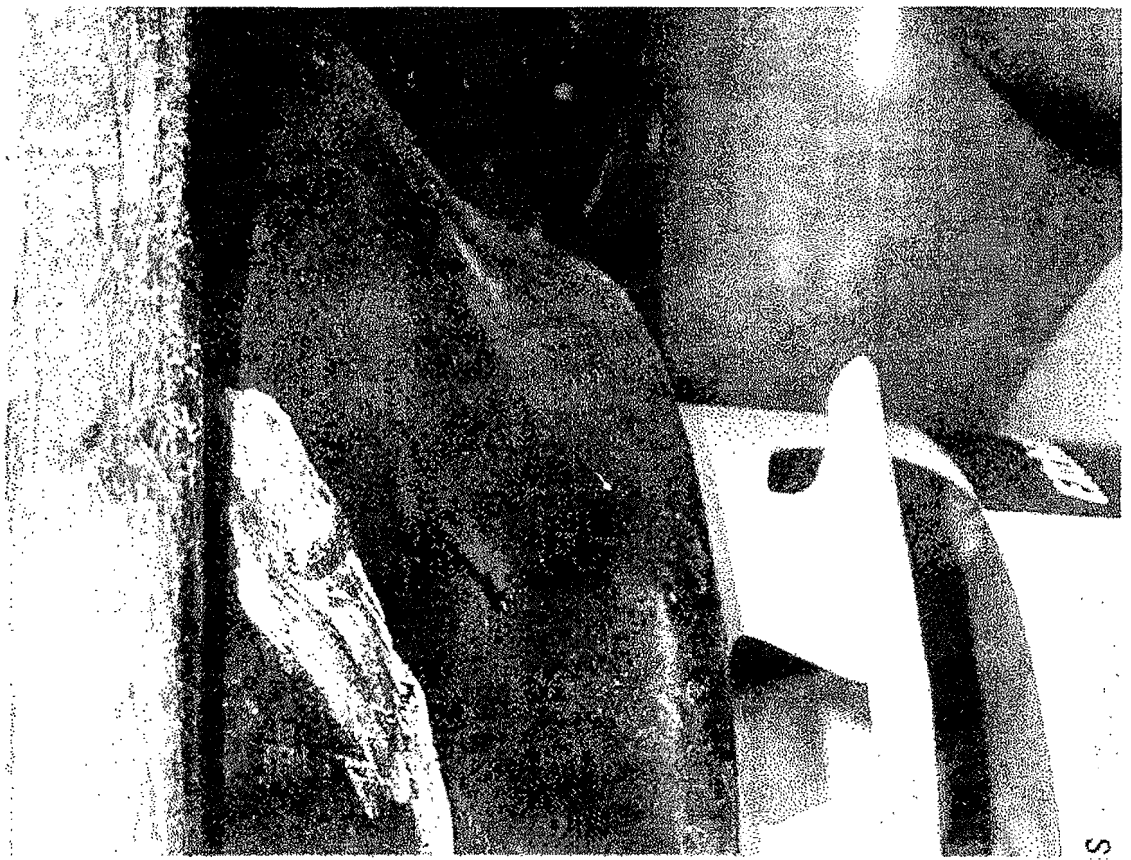
**TRAVEL STAR PRODUCTS**  
PO BOX 515, BOSHORN, IN 46527 674.533.0447  
TITLE:

**TSCPCYL-R12 CYLINDER RING**

SIZE DWG. NO.  
**A** TSCPCYL-R12

SCALE: 1:16 WEIGHT:

REV  
SHEET 1 OF 1

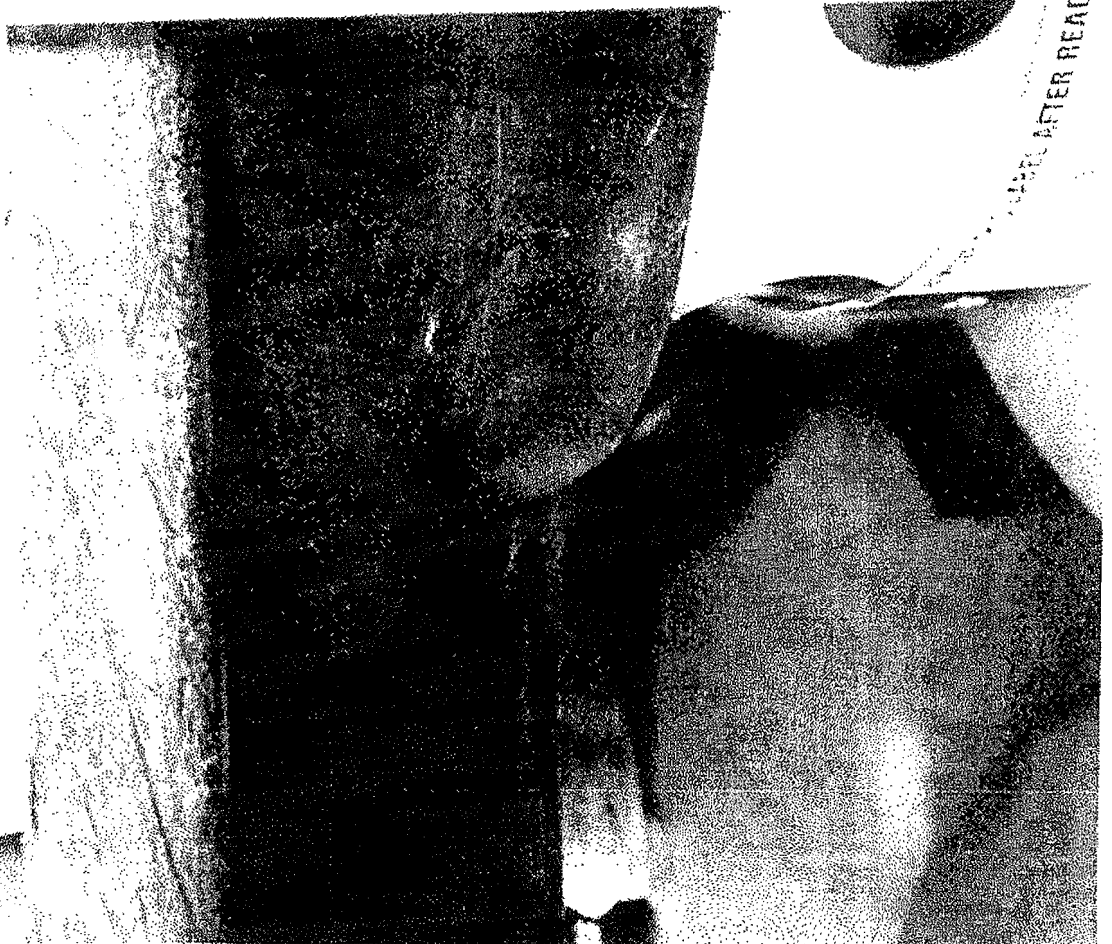


1F 7  
18

1F 7  
19

1F 8  
20

1F 9  
21



EXCHANGE

EXCHANGE

107655

EXCHANGE

11

12

13

14

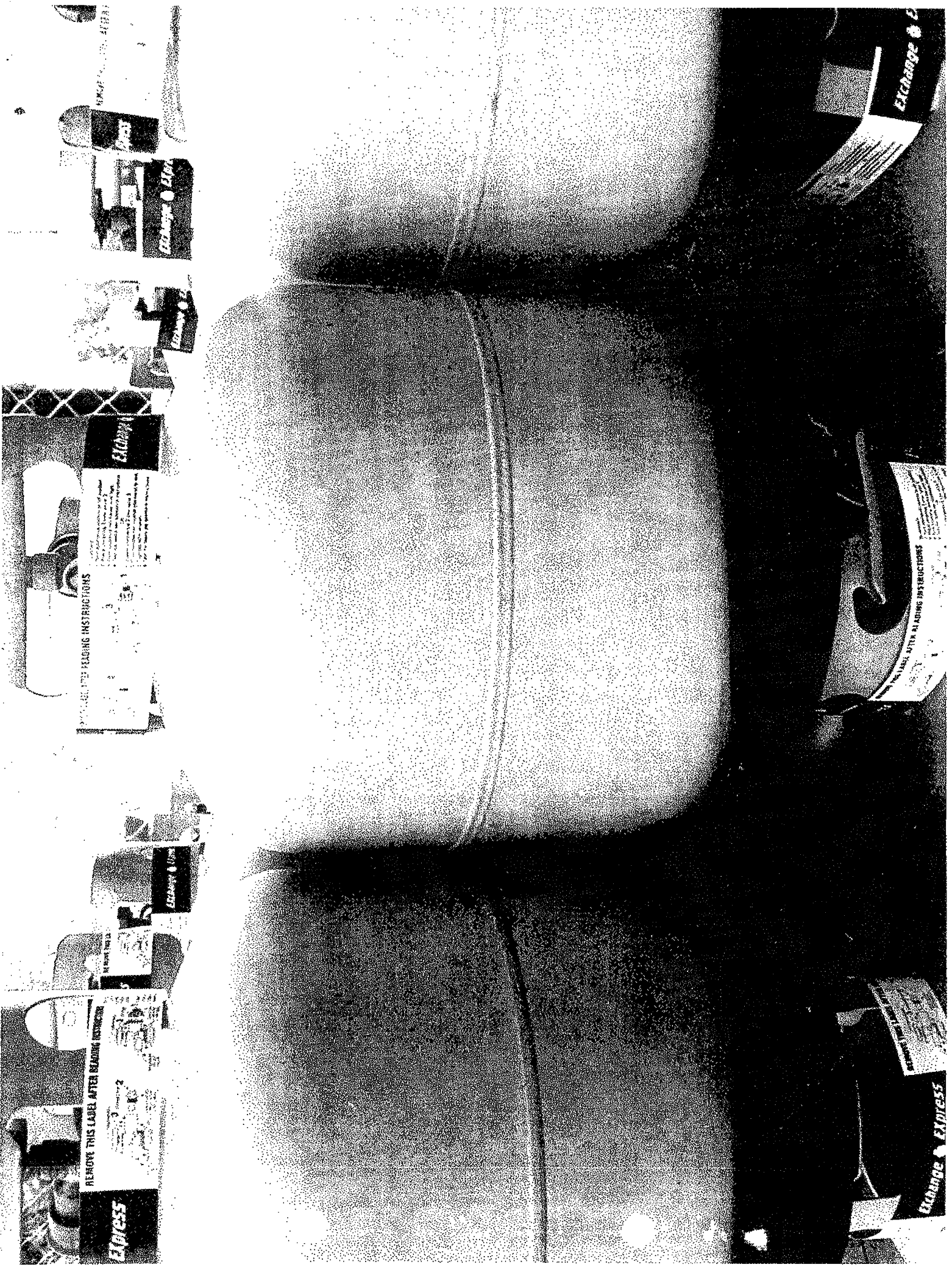
15

16

17

EXCHANGE

EXCHANGE













1F 6  
18

1F 7  
19

1F 8  
20

1F 9  
21







6 7 8 9 10 11 12

