



STANDARD PRACTICES - ENGINE - INFORMATION - FUEL AND CONTROL - INTRODUCE A NEW FUEL  
DIVERTER AND RETURN VALVE WITH IMPROVED SEALING FEATURES - CATEGORY CODE 7 -  
MOD.ENG-70-0118

1. Planning Information

A. Effectivity

- (1) Aircraft: Airbus A320
- (2) Engine: V2500-A1

B. Reason

This Service Bulletin introduces a new Fuel Diverter and Return Valve (hereafter referred to as FDRV) which has a new Valve and Sleeve Matched Set with improved sealing features.

C. Compliance

Category 7

Accomplish when supply of superseded parts has been depleted.

D. Approval

The part number transaction shown under the MATERIAL INFORMATION portion of this Bulletin has been shown to comply with the applicable Federal Aviation Regulations and are FAA-APPROVED for the Engine Model listed.

E. References

- (1) Internal Reference No.

EC90VJ020

- (2) Other References

Ishikawajima-Harima Heavy Industries Co., Ltd. (IHI) Service Bulletin No.13298-73-001. "Engine Fuel Control - Introduction of a New Fuel Diverter and Return Valve".

F. General Information

- (1) The Material Information portion of this Bulletin provides the latest information concerning the availability of the new FDRV.
- (2) The existing FDRV can be reworked and reidentified to a new configuration with accomplishment instructions given in the IHI Service Bulletin No.13298-73-001.

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(3) Other Publications Affected:

- (a) The V2500 Power Plant Illustrated Parts Catalog, Chapter/Section, 73-13-42.
- (b) The V2500 Engine Illustrated Parts Catalog, Chapter/Section 73-13-42.
- (c) The IHI Component Maintenance Manual, 73-13-42, Fuel Diverter and Return Valve 13298G10.

G. Material Information

New Part No. (ATA No.)	Qty	Est'd Unit Price (\$)	Keyword	Old Part No. (IPC No.)	Instructions Disposition
5L0031 (73-13-42)	1		.Valve, Fuel Divert	5L0004 (01-100)	(A)(B) (1)(2)

- (A) New part will be available approximately August 1991.
- (B) Old part will no longer be available for sale.
- (1) Old and new part is freely and fully interchangeable, both physically and functionally.
- (2) Old part number can be reworked and reidentified to a new configuration.

NOTE: The estimated 1991 unit prices shown are provided for planning purposes only and do not constitute a firm quotation. Consult the IAE Price Catalog or contact IAE's Spare Parts Sales Department for information concerning firm prices.

Printed in Great Britain

V2500-ENG-70-0118



ISHIKAWAJIMA-HARIMA HEAVY INDUSTRIES CO., LTD.

# SERVICE BULLETIN

Date: 1st June 1991

No. 13298-73-001

## ENGINE FUEL CONTROL - INTRODUCTION OF A NEW FUEL DIVERTER AND RETURN VALVE

### 1. Planning Information

#### A. Effectivity

This Service Bulletin is applicable to the Ishikawajima-Harima Heavy Industries Co., Ltd. (hereafter referred to as IHI) Fuel Diverter and Return Valve ( hereafter referred to as FDRV ) Part Number 13298G10 (IAE Part Number 5L0004) installed on the IAE V2500-A1 engines and the spare FDRV Part Number 13298G10 (IAE Part Number 5L0004).

- (1) All Part Number 13298G10 (IAE Part Number 5L0004), FDRV's prior to Serial Number 0235.

#### B. Reason

##### (1) Condition

There have been several instances when the Main Valve of the FDRV did not move freely at a high fuel temperature. This has been attributed to the Rulon Seal used on the Valve & Sleeve Matched Set. The seal may interrupt movement of the Main Valve in the Sleeve due to thermal expansion at a high fuel temperature.

##### (2) Background

This condition has been found out during testing for the FDRV's which have been returned for investigation. On functional testing, it was observed that the Main Valve has been caught by the Sleeve when the temperature of test fluid increased up to 266 to 302 deg F (130 to 150 deg C).

An engineering review has shown that the existing valve sealing features are to be changed from the Rulon Seal to the clearance seal to facilitate the clearance control between the Main Valve and the Sleeve.

##### (3) Objective

Incorporation of changes introduced by this Service Bulletin (Modification) has been designed to increase reliability.

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### (4) Substantiation

The changes introduced by this Service Bulletin have been subjected to a functional testing, and an endurance testing including a room, high and low temperatures testing. The test results obtained were satisfactory.

### C. Description

(1) The changes introduced by this Service Bulletin are as follows.

(a) The sealing features of the Valve & Sleeve Matched Set have been changed from the existing Rulon Seal to the clearance seal.  
(See Figure 1.)

(2) The existing FDRV can be reworked and reidentified to a new configuration by replacing the Valve & Sleeve Matched Set from the existing PN 14201G1 to the new PN 16503G01. (See Figure 2 and 3.)

(3) This Service Bulletin provides accomplishment instructions for replacing the Valve & Sleeve Matched Set, and also provides instruction for the reidentification of the FDRV.

(4) This Service Bulletin describes in two options to accomplish the modification of the FDRV.

(a) Option 1: Operators who wish to have the modification accomplished by IHI.

(b) Option 2: Operators who wish to accomplish the modification in the field.

### D. Compliance

Category 7

Accomplish when the supply of superseded parts has been depleted.

### E. Approval

Service Bulletin No. 13298-73-001, (IAE SB V2500-ENG-70-0118), was technically agreed by IAE on October 5, 1990. The part number changes and/or part modifications described in this Bulletin have been shown to comply with the appropriate Federal Aviation Regulations and are FAA approved for those units listed in this Bulletin.

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### F. Manpower

No additional man-hours are necessary to incorporate this Service Bulletin (Modification) at Component Maintenance level.

### G. Material - Price and Availability

- (1) Option 1: Operators who wish to have the modification accomplished by IHI.

Accomplishment of this Service Bulletin by IHI will be completed based on IHI's standard terms, conditions and prices of sale pertaining to commercial contracts in effect when order is accepted. Contact IHI's Civil Aviation Marketing & Sales Department for information concerning firm quotation.

- (2) Option 2: Operators who wish to accomplish the modification in the field.

New parts required to accomplish this Service Bulletin are listed in Section 3, Material Information and are available at the prices and lead times indicated.

An order for new or spare parts should be addressed to:

Attention: Mr. M. Soga, Manager, Civil Aviation Marketing & Sales Department, Aero-Engine & Space Operation,

Ishikawajima-Harima Heavy Industries Co., Ltd.  
Shin-Ohtemachi Bldg., 2-1, Ohtemachi 2-chome, Chiyoda-ku,  
Tokyo, Japan

Telex: IHIHQT J22232  
Telephone: 03-3244-5943

### H. Tooling - Price and Availability

- (1) Special tools are not required to accomplish this Service Bulletin.

### I. Weight and Balance

- (1) Weight change ----- None  
(2) Moment arm ----- No effect  
(3) Datum ----- Engine front mount centerline  
(Powerplant Station (P.P.S.) 100)

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## J. References

- (1) IAE Service Bulletin No. V2500-ENG-70-0118. "Information - Fuel and Control - Introduce a new Fuel Diverter and Return Valve with improved sealing features".
- (2) IHI Component Maintenance Manual, 73-13-42, Fuel Diverter and Return Valve, Part Number 13298G10.

## K. Other Publications affected

- (1) IHI Component Maintenance Manual, 73-13-42, Fuel Diverter and Return Valve, Part Number 13298G10.

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### 2. Accomplishment Instructions

#### A. Modification Instructions

- (1) Option 1: Operators who wish to have the modification accomplished by IHI.

- (a) Return the part number 13298G10 (IAE part number 5L0004), FDRV for modification and reidentification to:

Attention: Mr. T. Kokubo, Manager, Material Control,

Ishikawajima-Harima Heavy Industries Co., Ltd.

229, Tonogaya, Mizuho-Machi, Nishitama-Gun, Tokyo, 190-12, JAPAN

NOTE: All part number 13298G10 FDRV's which are accomplished the modification by IHI will be reidentified with the following on the existing name plates:

		<u>Existing</u>	<u>Renumber</u>
IAE	P/N	5L0004	5L0031
IHI	P/N	13298G10	13298G11
SERIAL NO.		appropriate No.	unnecessary to renumber
MOD.	NO.	BS5	BS12

- (2) Option 2: Operators who wish to accomplish the modification in the field.

- (a) Disassemble PN 13298G10, FDRV, by the approved procedures in the IHI Component Maintenance Manual, 73-13-42, Disassembly. (Refer to 1. J. (2).)

- (b) Replace PN 14201G1, Valve & Sleeve Matched Set, with new PN 16503G01, Valve & Sleeve Matched Set. Discard the old PN 14201G1, Valve & Sleeve Matched Set. (Refer to Figure 2.)

- (c) Assemble the FDRV by the approved procedures in the IHI Component Maintenance Manual, 73-13-42, Assembly. (Refer to 1. J. (2).)

- (d) Reidentify the FDRV with following on the existing name plate with the metal stamps by hand press (Refer to Figure 3.):

		<u>Existing</u>	<u>Renumber</u>
IAE	P/N	5L0004	5L0031
IHI	P/N	13298G10	13298G11
SERIAL NO.		appropriate No.	unnecessary to renumber
MOD.	NO.	BS5	BS12

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- (e) Do a functional testing by the approved procedures in the IHI Component Maintenance Manual, 73-13-42, Testing and Fault Isolation. (Refer to 1.J. (2).)

### B. Recording Instructions

- (1) A record of accomplishment in necessary.

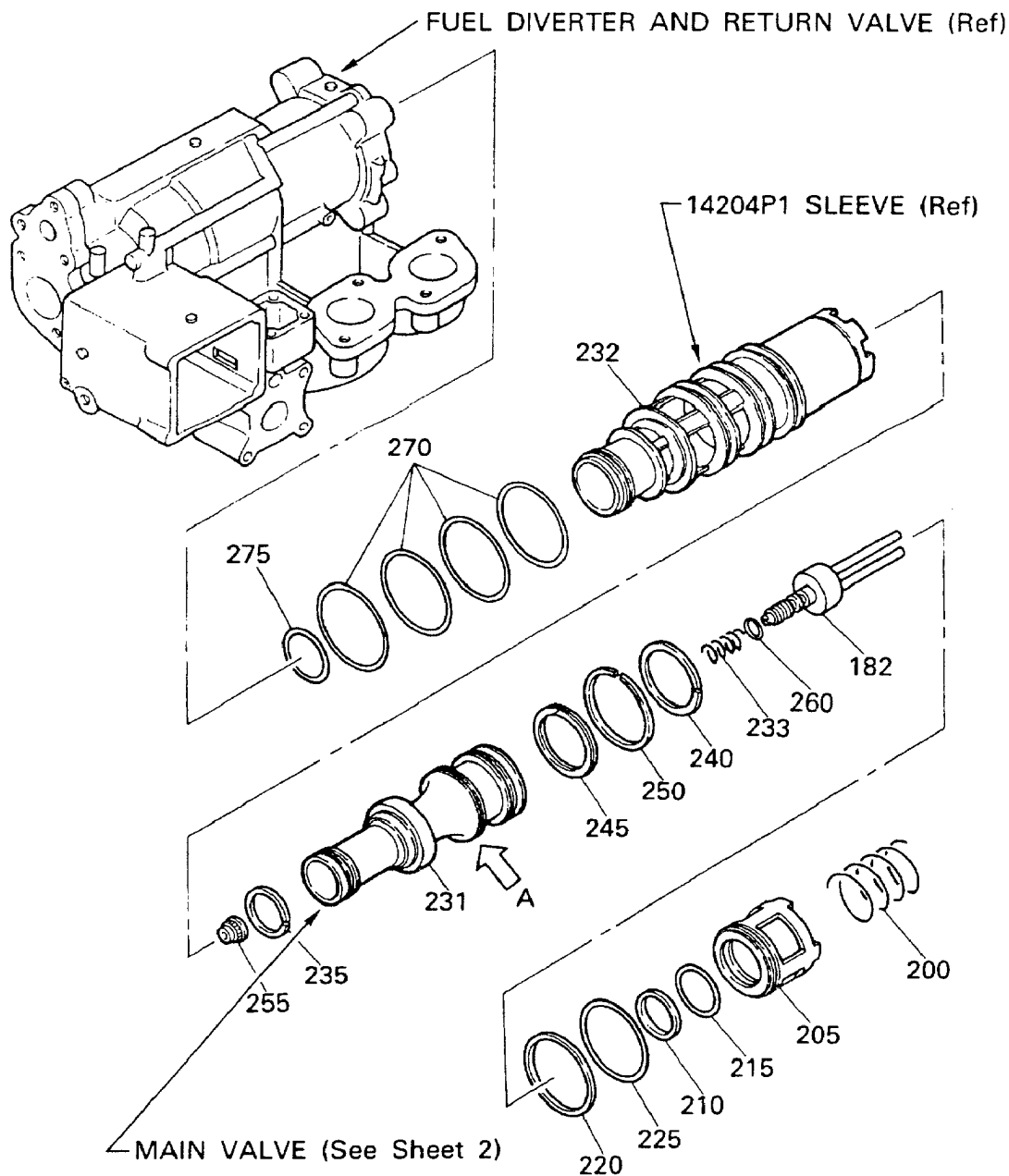
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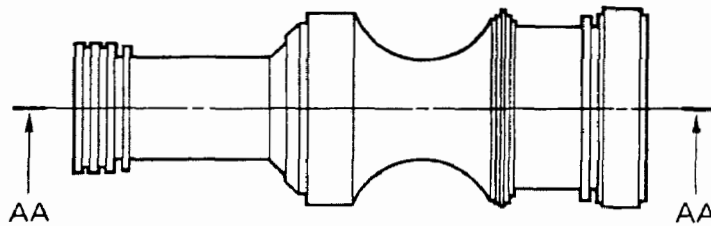
Valve & Sleeve Matched Set - Before and After Alteration  
Figure 1, Sheet 1 of 2

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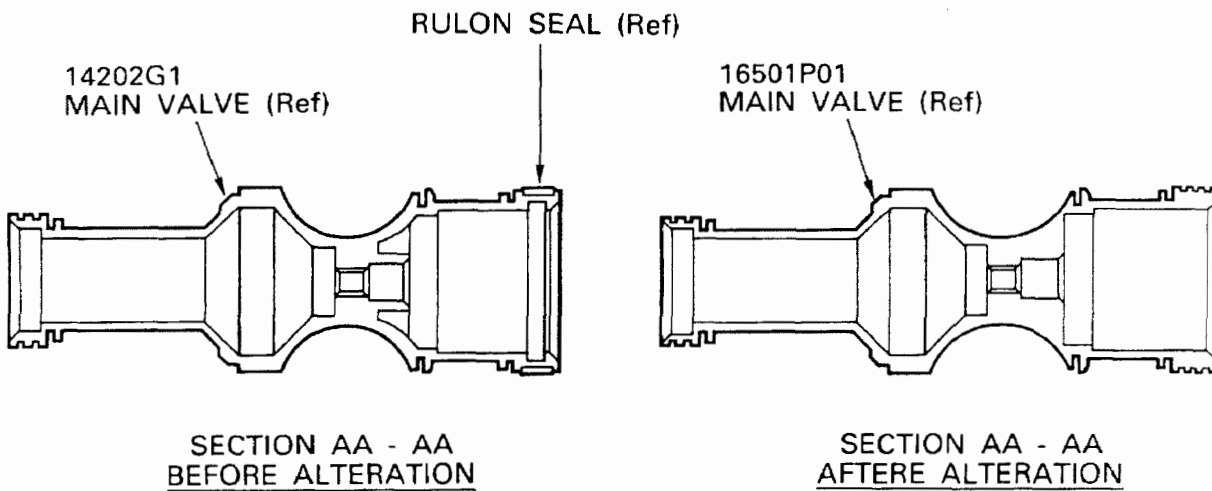
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VIEW ON A



SECTION AA - AA  
BEFORE ALTERATION

SECTION AA - AA  
AFTERE ALTERATION

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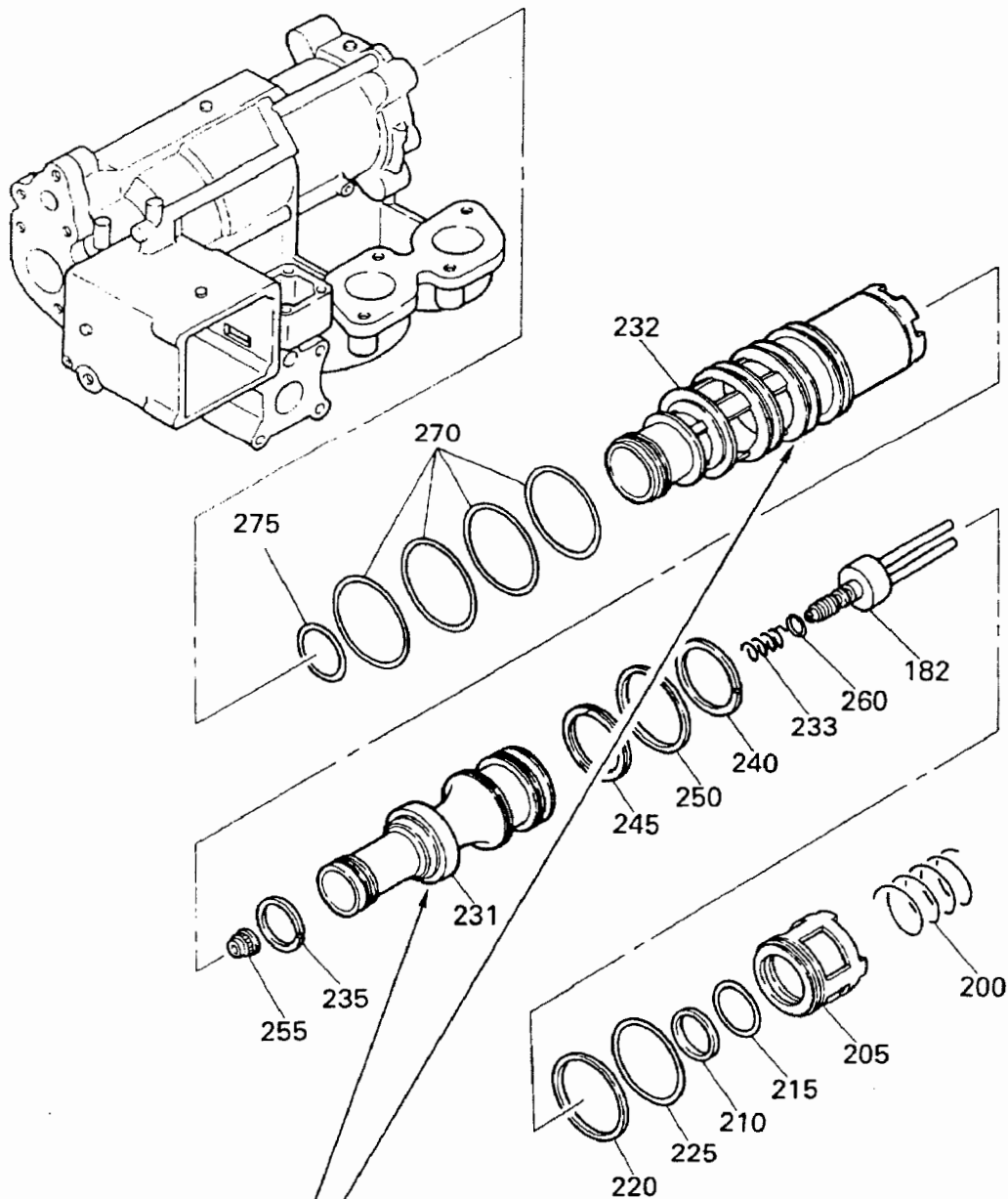
Valve & Sleeve Matched Set - Before and After Alteration  
Figure 1, Sheet 2 of 2

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REPLACE THE EXISTING PN 14201G1 VALVE & SLEEVE  
MATCHED SET (1 off) WITH THE NEW PN 16503G01  
VALVE & SLEEVE MATCHED SET (1 off).

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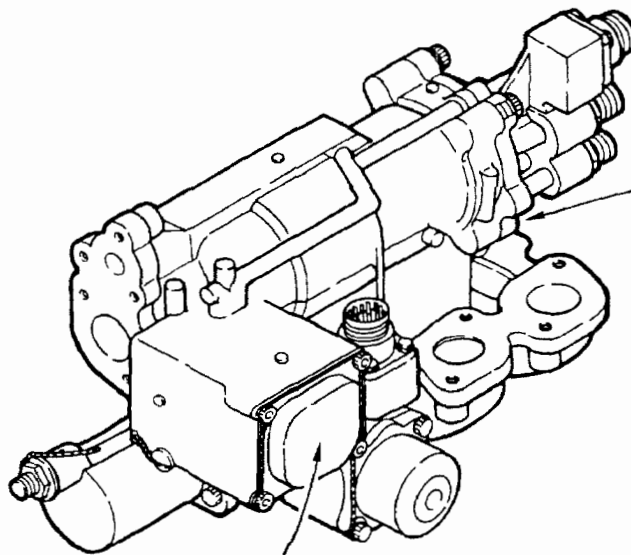
Replacement of the Valve & Sleeve Matched Set  
Figure 2

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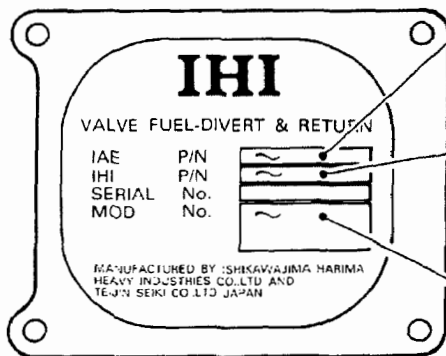
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FUEL DIVERTER AND  
RETURN VALVE (Ref)



MAKE A MARK OF NEW PN 5L0031  
WITH METAL STAMPS BY HAND PRESS  
ADJACENT TO THE EXISTING PN 5L0004.  
MAKE TWO LINES (==) ON EXISTING PN  
TO ERASE IT.

MAKE A MARK OF NEW PN 13298G11  
WITH METAL STAMPS BY HAND PRESS  
ADJACENT TO THE EXISTING PN 13298G10.  
MAKE TWO LINES (==) ON EXISTING PN  
TO ERASE IT.

MAKE A MARK OF NEW MOD. No. BS12  
WITH METAL STAMPS BY HAND PRESS  
ADJACENT TO THE EXISTING MOD. No. BS5  
MAKE TWO LINES (==) ON EXISTING MOD.  
No. TO ERASE IT.

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Reidentification of the Fuel Diverter and Return Valve  
Figure 3

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## 3. Material Information

Applicability: For each IHI FDRV PN 13298G10 (IAE PN 5L0004), installed on V2500-A1 engine and the spare FDRV to incorporate this Bulletin.

### A. Kits Associated with this Bulletin:

None

### B. Parts affected by this Bulletin:

New Part No. (IPL No.)	Qty	Est'd (\$) Unit Price	Lead Time	Keyword	Old Part No.	instruction Disposition
13298G11 ( 1-1 )	Ref	--	--	Valve, Fuel Dvt & Return	13298G10	(S1) (1D)
16503G01 ( 1-230 )	1	6,590.00	90 days	. Valve & Sleeve, Assy Matched Set	14201G1	(A) (B) (S1)
16501P01 ( 1-231 )	1	--	--	.. Valve, Matched	14202G1	(C)
14204P1 ( 1-232 )	1	--	--	.. Sleeve Matched	14204P1	(C)

### C. Instruction/Disposition Code Statements:

(A) New part number will be available approximately July 1991.

(B) Old part number will no longer be available for sale.

(C) Non-salable item.

(S1) Old and new part number is freely and fully interchangeable, both physically and functionally.

(1D) Old part number can be reworked and reidentified to a new part number.

NOTE: The unit prices shown in US dollars (\$) are F.O.B. IHI, Tokyo, Japan

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