

# Knovelhead - Modifications - Page 1

Part # :  
IW-100101

Knovelhead - modifications - page 1

**NOTE :**

IRON WING's Knovelhead Rockerboxes are designed to fit all 1966-1984 Harley-Davidson Shovelhead engines as well as earlier Pan and Knuckles equipped with Shovelhead cylinder and cylinder heads. The exterior dimensions are the same as stock. With a few minor exceptions, no modification should be necessary when replacing stock rockerboxes with IRON WING's Knovelhead.

**In case of exception :**

The Knovelhead rockerboxes have thick walls which reduce in some rare cases the clearance to the top valve spring retainer. Remove material from inside the rockerbox to obtain minimum clearance of 1.5-2 mm between housing and top retainer. To maximize rockerbox gasket surface area, relief should be cut at angle parallel to direction of valve travel rather than vertical.

Remove least amount of material possible to obtain proper clearance.

See Figures 1 & 2!

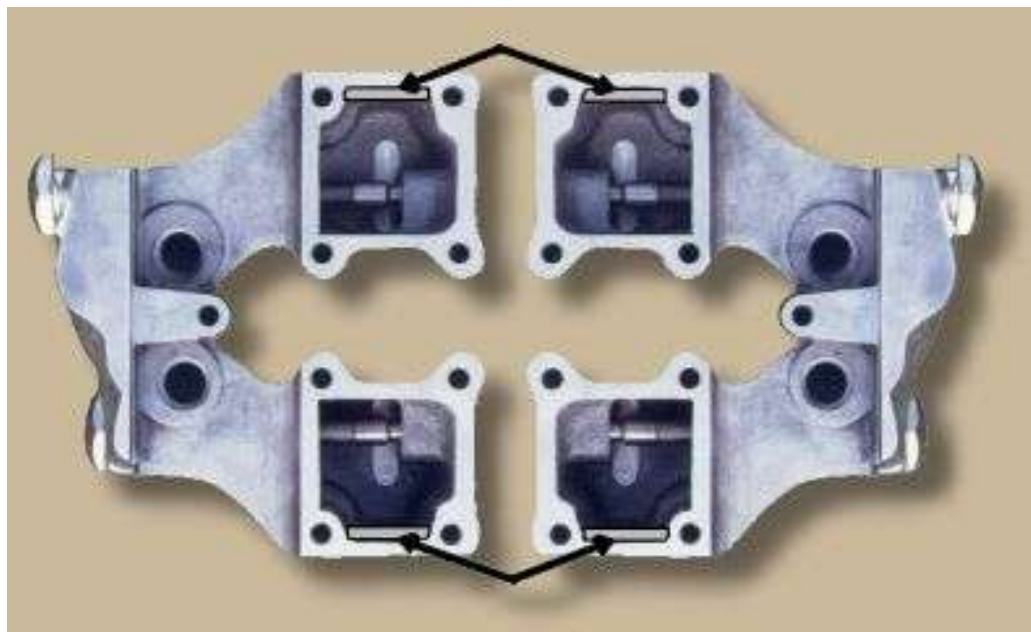


Figure 1

Shading indicates areas most likely to require modification for spring retainer clearance.  
Relief should be cut at angle, not vertical.

Knovelhead - modifications - page 1 (see also next page)

**IRON WING**  
Non-Official Harley-Davidson Dealer  
Pre-Owned Harley-Davidson  
Harley-Davidson Aftermarket Products  
Owner : Gerhard Strubbe  
Loxstedter Weg 2  
27572 BREMERHAVEN - Germany  
Telefon und Fax :0049-471-72760  
E-Mail : postminister@ironwing.de  
www.ironwing.de - www.knovelhead.de

Copyright © 2003  
IRON WING.  
All rights reserved.  
Printed in Germany.

## Knovelhead - Modifications - Page 2

Part # :  
IW-100101

Knovelhead - modifications - page 2

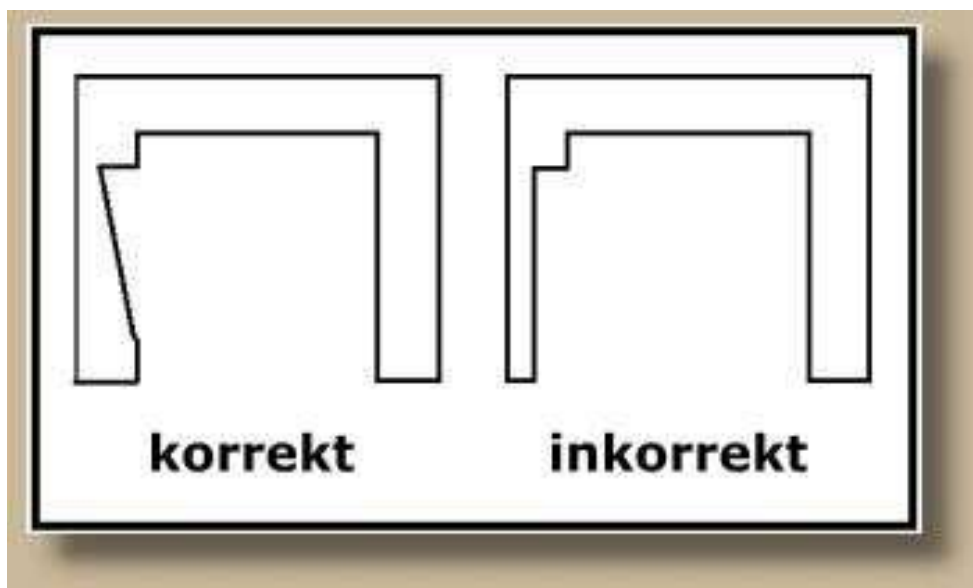


Figure 2

Valve compartment of rocker housing (cross section).  
If required, relief should be cut at angle approximately the same angle of valve travel,  
not vertical. Remove least amount of material possible to obtain proper clearance

Knovelhead - modifications - page 2 (see also next page)

**IRON WING**  
Non-Official Harley-Davidson Dealer  
Pre-Owned Harley-Davidson  
Harley-Davidson Aftermarket Products  
Owner : Gerhard Strubbe  
Loxstedter Weg 2  
27572 BREMERHAVEN - Germany  
Telefon und Fax :0049-471-72760  
E-Mail : postminister@ironwing.de  
www.ironwing.de - www.knovelhead.de

Copyright © 2003  
IRON WING.  
All rights reserved.  
Printed in Germany.

## Knovelhead - Modifications - Page 3

Part # :  
IW-100101

Knovelhead - modifications - page 3

NOTE :

At the use of stock frames it can in some cases come to space demands which require a material removal at the Knovelhead system-unit cover.  
The height can by sharpen or mill be reduced to reach a sufficiently safe distance to the frame at the back top side of the boxes without problems around up to 4-5 mm.  
The rockerbox is approx. 8 mm strong in this place.

See Figures 3 & 4



**Figure 3**  
At the back top side of the Knovelhead rockerbox you can cut at most up to 5 mm of materia.

Knovelhead - modifications - page 3 (see also next page)

**IRON WING**  
Non-Official Harley-Davidson Dealer  
Pre-Owned Harley-Davidson  
Harley-Davidson Aftermarket Products  
Owner : Gerhard Strubbe  
Loxstedter Weg 2  
27572 BREMERHAVEN - Germany  
Telefon und Fax :0049-471-72760  
E-Mail : postminister@ironwing.de  
www.ironwing.de - www.knovelhead.de

**Copyright © 2003**  
**IRON WING.**  
**All rights reserved.**  
**Printed in Germany.**

# Knovelhead - Modifications - Page 4

Part # :  
IW-100101

Knovelhead - modifications - page 4



**Figure 4**  
Highlighted areas show the areas which can be modified. Take down material by mill or sharpen

Knovelhead - modifications - page 4 (see also next page)

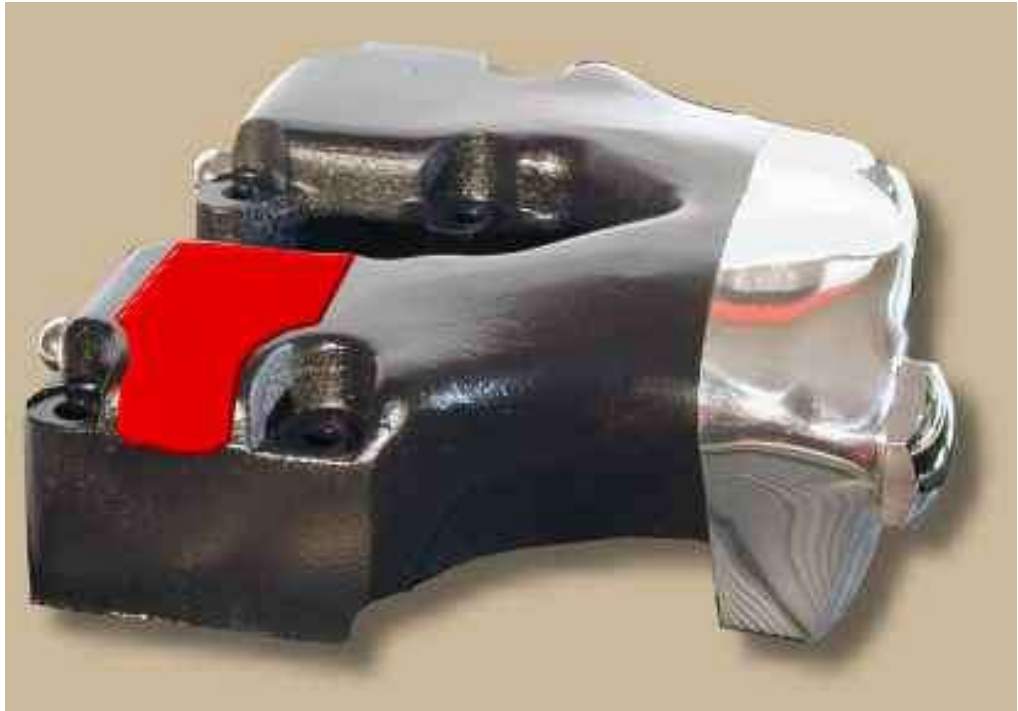
**IRON WING**  
Non-Official Harley-Davidson Dealer  
Pre-Owned Harley-Davidson  
Harley-Davidson Aftermarket Products  
Owner : Gerhard Strubbe  
Loxstedter Weg 2  
27572 BREMERHAVEN - Germany  
Telefon und Fax : 0049-471-72760  
E-Mail : postminister@ironwing.de  
www.ironwing.de - www.knovelhead.de

**Copyright © 2003  
IRON WING.  
All rights reserved.  
Printed in Germany.**

# Knovelhead - Modifications - Page 5

**Part # :**  
**IW-100101**

Knovelhead - modifications - page 5



**Figure 5**  
Under circumstances it is to remove material also at the back curve of the rockerbox necessarily to ensure an adequate distance.

With friendly regards  
your IRON WING Team  
Fon + Fax: 0049-(0)471-72760  
e-Mail : info@ironwing.de

Knovelhead - modifications - page 5

**IRON WING**  
Non-Official Harley-Davidson Dealer  
Pre-Owned Harley-Davidson  
Harley-Davidson Aftermarket Products  
Owner : Gerhard Strubbe  
Loxstedter Weg 2  
27572 BREMERHAVEN - Germany  
Telefon und Fax :0049-471-72760  
E-Mail : postminister@ironwing.de  
www.ironwing.de - www.knovelhead.de

**Copyright © 2003**  
**IRON WING.**  
**All rights reserved.**  
**Printed in Germany.**