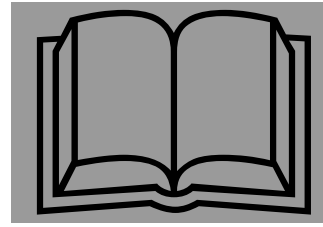


OCTOBER 2015



UT-ID 18.1-500

Roller Guide Rebuild Kits

NONDISCLOSURE WARNING

This work contains proprietary information and is the property of UNITEC. It is distributed only to those employees with a need to know the information and may not be reproduced, disclosed, or distributed to any person outside the employ of UNITEC without written authorization from an officer thereof. UNITEC competitors, customers, former employees, retirees, members of the general public and consultants not bound by a written nondisclosure agreement are among those outside the employ of UNITEC. In the event that an employee in the possession of this work no longer needs the information, retires, resigns, is terminated or laid off from UNITEC, or in the event that a person outside the employ of UNITEC comes into possession of this work, such employee or person should destroy the work or return it to UNITEC.

Any unauthorized reproduction, disclosure or distribution by any person of any portion of this work may be a breach of a duty owed by such person to UNITEC and could result in damages actionable at law.

PROHIBITION ON COPYING

Any unauthorized reproduction, disclosure or distribution of copies by any person of any portion of the work may be a violation of Copyright Law of the United States of America and other countries, could result in the awarding of Statutory Damages of up to \$250,000 (17 USC 504) for infringement and may result in further civil and criminal penalties. All rights reserved.

PUBLICATION CATALOGING DATA

First Issue: October 2015
Master Index Control Number:
Part Number: UT-ID 18.2-500

Comments or questions about the information contained in this publication should be directed to:

UNITEC
212 West Newberry Road
Bloomfield, CT 06002
(800) 328-7840 Phone
(860) 286-1625 Fax

Unpublished Work - © UNITEC, 2015

Introduction

UNITEC® now offers roller guide rebuild kits for the traditional Otis roller guides built between the mid to late 1940s through 2000. Contact your UNITEC representative for assistance in ordering the correct rebuild kit for your application, as ***varying vintage equipment makes it difficult to select the right kit on your own.***

For your reference, here is a listing of all of the kits we offer.

Table 1: UNITEC Roller Guide Rebuild Kits

Roller Guide Rebuild Kit	Description
6261A500-UNITEC	3-3/4 in. Early Vintage
6261P500-UNITEC	3-3/4 in. Imperial Middle Vintage
6261P500-UNITEC-MET	3-3/4 in. Metric Latest Vintage
6261AD500-UNITEC	4-7/8 in. Universal Roller Guide Kit
D6261C500-UNITEC	7-7/8 in. R.G. Kit - (Pre-1961 Vintage)
E6261C500-UNITEC	7-7/8 in. R.G. Kit - (1962-1999 Vintage)
F6261C500-UNITEC	7-7/8 in. R.G. Kit - (Metric, Post-1999 Vintage)
6261T500-UNITEC	10 in. R.G. Kit - Earliest Vintage (1963-1988)
6261AM500-UNITEC	10 in. R.G. Kit - Earliest Vintage (1987-1996) - Pins w/o Grease Fittings
B6261AM500-UNITEC	10 in. R.G. Kit - Post 1996 Vintage



Figure 1: Typical Replacement Parts for Early 3-3/4 in. Guide (B6261A)



Figure 4: Typical Replacement Parts for 7-7/8 in. Roller Guides (6261C)



Figure 5: Typical Replacement Parts for 10 in. guides (6261T or AM) (Pins w/fittings Shown)

Tools Suggested

- **High strength black adhesive**, because there are some bumpers (leather or rubber) that may need to be bonded in place on certain smaller size roller guide assemblies.
- Pump type needle nose-tipped **oiling can**.
- A **caliper** and **micrometer** for work at the jobsite. These will be needed to measure the new pins after pressing in dimensions of the bushings.

ROLLER GUIDE REBUILD KITS

- **Reaming tool** in case the newly pressed in bushings for the 3-3/4 in. up through the 7-7/8 in. size roller guides, require 'sizing' after pressing. To order the 3/4 in. precision reaming tool from UNITEC, use p/n MT-106005-1 (see Figure 6).

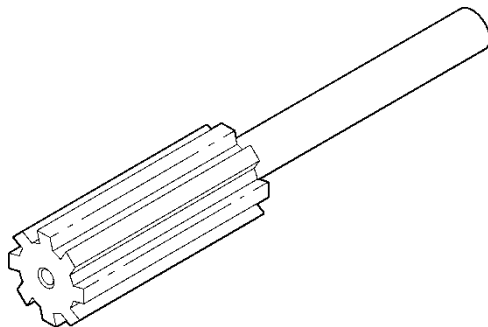


Figure 6: Reaming Tool p/n MT-106005-1

NOTE: A reaming tool is not offered for the 10 in. guides. It is unlikely it will be needed.

Also – when working on the 7-7/8 in. size guides, a bushing removal and insertion tool is available through UNITEC and is recommended for purchase.

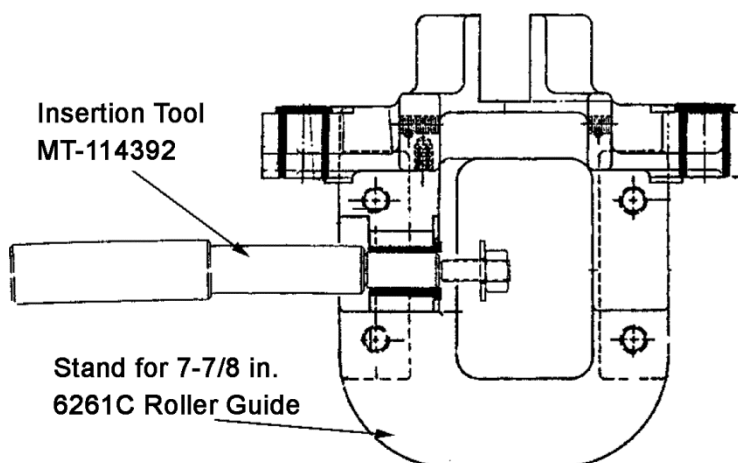


Figure 7: Insertion Tool p/n MT-114392 (for 7-7/8" guides)

Each of the above mentioned MT tools can be utilized on many subsequent jobs. Do not order these tools each time you order rebuild kits, the tools are re-usable.

Replacing Bushings (General Guide)

Because bronze bushings, when pressed into bores, can collapse on the ID, a reaming operation **may be** necessary in order to achieve the intended clearances for proper roller guide operation.

ROLLER GUIDE REBUILD KITS

Use good standard shop pressing and pushing practices when removing and inserting bushings from roller guide lever arms. These arms are cast iron and can easily be cracked if proper care is not taken to support housings and bores properly. Slow pressing and pushing is always recommended (pounding is not).

Use Table 2 to ensure your pivot points on the newly rebuilt roller guides will have the proper 'free' pivoting action. To avoid the risk of the lever arms not permitting the proper 'float' of the roller guide roller arms, be sure to measure the new pin diameter provided in the rebuild kit with a good caliper or micrometer and compare the pin OD with the bushing bores **after pressing the bushings in**.

You will notice that the **intended clearance** (see Table below) between bushing ID and pin OD is about the same for each guide. The 10 in. guide, given its purpose at higher loads and speeds, should carry a slightly tighter clearance as shown.

The bushing reaming tool can be used on all these size bushings except for those in the 10 in. guide. Should the bushing ID on the 10 in. guide arms carry less than the desired clearance, local mechanics will have to provide the proper 'sizing' locally.

CAUTION: Only perform the reaming operation if measurements taken show this operation to be required.

Never leave 'untouched' any bushing/pivot pin interface where the new pins (when oiled and inserted in the bores for trial fit), bind in any way. Always size the bushing bores if you have not achieved the intended clearance per table, or if there is any dragging or binding present.

Table 2:

Stand / Lever Arm Type	Roller Guide Type	Roller Diameter	Approximate Bore	Intended Clearance
A288LC	6261A	3-3/4 in.	3/4 in.	0.001 in. to 0.003 in.
B288HB	6261A	3-3/4 in.	3/4 in.	0.001 in. to 0.003 in.
288LL, A288LL	6261P	3-3/4 in.	3/4 in.	0.001 in. to 0.003 in.
288LM, A288LM	6261P	3-3/4 in.	3/4 in.	0.001 in. to 0.003 in.
288LJ, A288LJ, B288LJ	6261AD	4-7/8 in.	3/4 in.	0.001 in. to 0.003 in.
395D, A395D, B395D	6261AD	4-7/8 in.	3/4 in.	0.001 in. to 0.003 in.
C471EA, D471EA	6261C	7-7/8 in.	3/4 in.	0.001 in. to 0.003 in.
288TF	6261T, AM	10 in.	7/8 in.	0.001 in. to 0.002 in.

ROLLER GUIDE REBUILD KITS

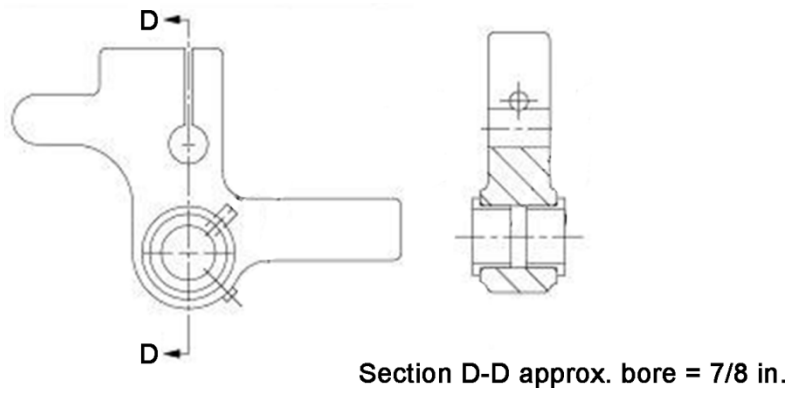


Figure 8: Example of 10 in. (6261T or AM) Roller Guide Lever Arm Dual Bushing Arrangement

ROLLER GUIDE REBUILD KITS

7-7/8 in. Guides Rebuild Only

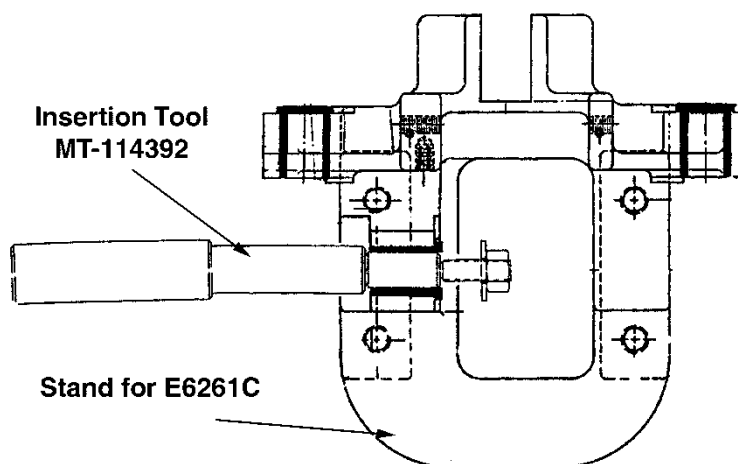


Figure 9: 7-7/8 in. Roller Guide Stand

In the case of type 6261C 7-7/8-in. roller guide assemblies, lever pivot bushings are located not in the lever arms but rather in the stand itself (see Figures 7 & 9).

Replacement of the bushings in the stands for the 6261C type roller guides is made easier with the use of the roller guide bushing extraction/insertion tool (p/n MT-114392). The extraction/insertion tool shown in Figure 9 has been designed both to remove and press in place the bushings. The tool comes with a nut and washer, which are used when removing old bushings.

NOTE: Limited clearances near guide rails may require the removal of the roller guide stand to perform this work.

For the 7-7/8 in. guides, insert the tool into the inside diameter of the bushing (flange side of the bushing on the thread side of the tool) and then capture the bushing on the tool with the washer and nut. Once the old bushings are removed, see that all oil wicks, which may be present, are also driven out.

Place the new bushing on the tool shaft. Slide the threaded portion of the tool through one of the three bores in the roller guide stand. Tap the bushing into place. Use a drill machine that will accept a 3/8 in. diameter shank and use reaming tool (p/n MT-106005-1) to open up the bore of each bushing **only if measurements show this operation to be required**. Use micrometer and caliper and check for clearance. Remove any bronze debris and burrs from the stand. Once the bushings are set back in place, it is also essential to determine what type of pivot pins are present.



Figure 10: Pivot Pins

Pin Installation Process (Grease Lubrication Only) - 7-7/8 in.

UNITEC Roller Guide Kits are shipped with new pivot pins. If your roller guide has pins with grease fittings, no further work will be required other than lightly greasing the NEW pins from the kit before final assembly and giving an additional few pumps after the roller guide arms are back in place.

Pin Installation Process (Oil Lubrication Only) 7-7/8 in.

If your roller guide has pivot pins with no grease fittings (see Figure 9), this indicates your pivot pins should be lubricated via oil wicks in the stand.

The three bosses in the stand should have wick lubrication ports drilled in them. For these oil lubricated pivots, after new bushings are reinstalled and reamed, it will be required that you drill a single 7/32 in. diameter hole through each inserted bushing, using the top oil lube port holes as pilots in each of the three pivot pin bosses in the stand. It is possible that the fittingless pins could have been mistakenly field-installed (at some earlier date) in roller guide stands having no oil wick ports. When using the oil lubricated type design you must plan on drilling a single 7/32 in. hole through the top of each of the three cast iron bosses in the stand. Locate the hole centered along the length of each inserted bushing and drill through the casting and **one wall only** of each of the installed bushings. Take care not to score the opposite side inside diameter wall of the bushing when the drill breaks through the bushing wall.

After drilling, clean thoroughly and carefully, deburr the inside diameter of each bushing (at the break through point), and reinsert new wicks (p/n 488H1) into each of the three holes. Lower lube port holes do not need to be re-drilled, because these holes should have been plugged with RTV upon original installation of the roller guides during the construction phase. Lubricate each pivot pin with oil and saturate the wicks with oil as well.

Appendix A: Related Parts, Tools and Lubricants

Table 3: Related Parts

Description	Part Number
Oil Wick	488H1
7/32 in. Drill Bit	VP-764850
Bushing Driver Tool	MT-114392
Bushing Reaming Tool (~0.752 in.)	MT-106005-1
Oil Lubricant for Pivot Pins	VP-418785
Grease Lubricant for Pivot Pins	VP-420240