

# Ashland

## EARTHMOVERS

# I-110TS2

# PARTS MANUAL

ver 3-08



Ashland Industries Inc.  
1115 Rail Drive  
P.O. Box 717  
Ashland, WI. 54806  
Ph: 877-634-4622 Toll Free  
Ph: 715-682-4622  
Fx: 715-682-9717  
[www.ashlandind.com](http://www.ashlandind.com)

MEMBER  
**CIMA**  
CONSTRUCTION INDUSTRY  
MANUFACTURERS ASSOCIATION





## HOW TO ORDER PARTS:

### IMPORTANT

Parts must be ordered through your local authorized ASHLAND dealer.

Be sure to state MODEL and SERIAL NUMBER of your machine, PART NUMBER, DESCRIPTION and QUANTITY needed.



Unless this is done, we cannot provide prompt service or assure shipment of the correct parts.

Ashland Industries weldable replacement parts are available to rebuild, modify or update your scraper to current factory specifications.

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## SAFETY SIGNAL WORDS

Note the use of the signal words DANGER, WARNING and CAUTION with the safety messages. The appropriate signal word for each has been selected using the following guidelines:



**DANGER:** Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.

This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.



**WARNING:** Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.



**CAUTION:** Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury.

It may also be used to alert against unsafe practices.



## GENERAL SAFETY GUIDELINES

Safety of the operator is one of the main concerns in designing and developing a new piece of equipment. Designers and manufacturers build in as many safety features as possible. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury, study the following precautions and insist those working with you, or for you, follow them.

Replace any CAUTION, WARNING, DANGER or instruction safety decal that is not readable or is missing. Location of such decals is indicated in this booklet.

Do not attempt to operate this equipment under the influence of drugs or alcohol.

Review the safety instructions with all users annually.

This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible adult familiar with farm machinery and trained in this equipment's operations. **Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.**

To prevent injury or death, use a tractor equipped with a Roll Over Protective System (ROPS). Do not paint over, remove or deface any safety signs or warning decals on your equipment. Observe all safety signs and practice the instructions on them.

Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely, is in question - **DON'T TRY IT.**

# OPERATORS AND MAINTENANCE INSTRUCTIONS

This scraper is a durable piece of equipment and with proper care will yield many years of trouble free operation. The scraper requires a power source with TWO 4 way (double acting) hydraulic control valves.

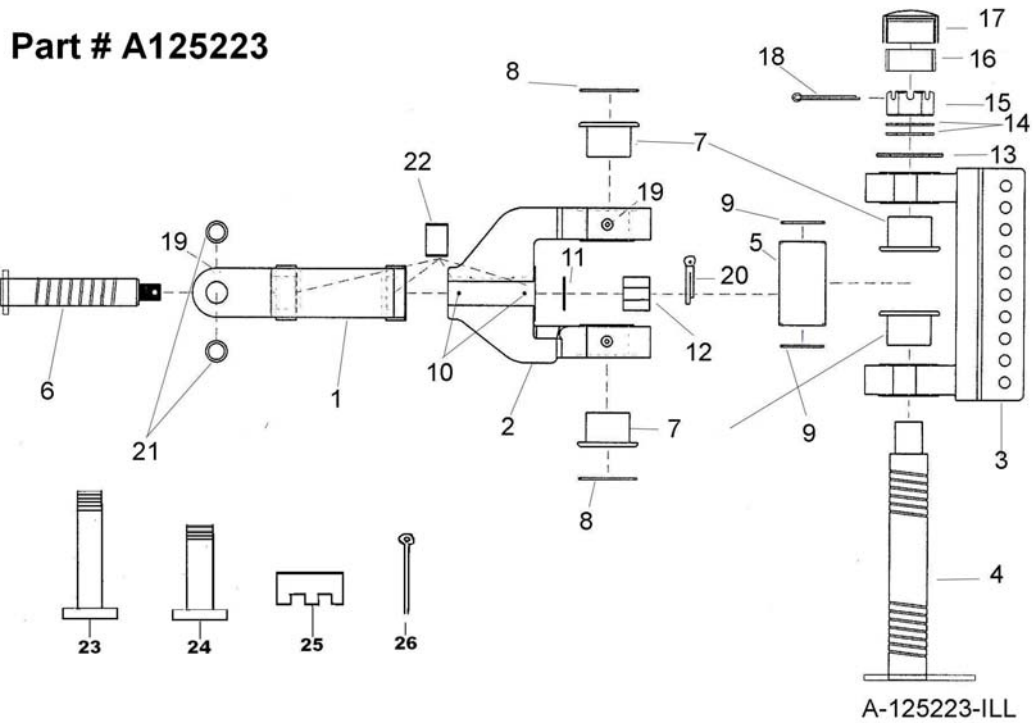
The scraper should be greased at all points where grease fittings are provided. Connect hydraulic hoses to the tractor and retract lift cylinders to **REMOVE TRANSPORT LOCK PINS** (point A), then extend and retract all cylinders several times to force out any air from the hydraulic cylinders and lines. Check the oil levels in the tractor hydraulic system and add to maintain the proper level. Care should be used when adding oil or when disconnecting any oil line to keep all dirt out of the oil as dirt is a major factor in the failure of hydraulic components.

When the scraper is placed into operation, the operator will have to "feel out" the amount of depth of cut to obtain maximum loading efficiency. This is usually accomplished by taking a lesser and more uniform cut; however, some soil conditions such as loose sand may require a "pumping action" obtained by taking successive deep cuts and lifting out of cut as the tractor begins to lose power or traction.

1. After 10 hours work, all bolts should be checked and tightened if necessary.
2. Every 10 hours all grease fittings should be lubricated.
3. After 50 hours work, all bolts should be rechecked and tightened if necessary. Check wheel bearings and adjust if necessary.
4. After 300 hours work, clean and repack wheel bearings and replace, if necessary, cutting edges, worn pins, etc.

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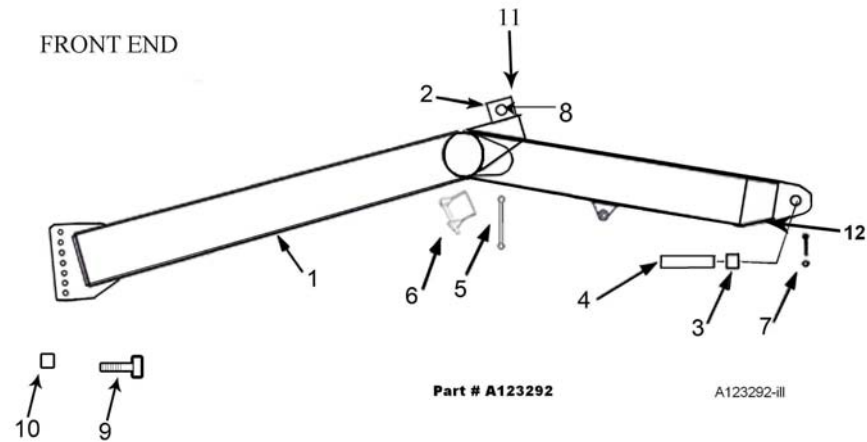
Swivel Hitch Assembly used on S/N 21582 and above



Key Number	Part Number	Description
1	A125223-01	Yoke: A-Frame
1	A123299-07	Pin: Two Ear Drawbar To Hitch
2	A125223-02	Swivel
3	A125223-03	Bracket: 10 Hole
4	A125223-04	Pin: Main Vertical
5	A125223-05	Spacer: 6"
6	A125223-06	Pin Horizontal
7	A125223-07	Bushing
8	A125223-08	Seal: O-ring
9	A125223-09	Seal: O-ring
10	AFH-00028	Grease Fitting: 90°
11	A125223-11	Washer- 1-1/2" For Horizontal Pin
12	A125223-12	Nut: Slotted 1-1/2" NC
13	A125223-13	Spacer: 6"
14	A125223-14	Washer: 2 1/2"
15	A125223-15	Nut: Slotted 2-1/2" NC
16	A125223-16	Sleeve: 2" Rubber
17	A125223-17	Cap: For Vertical Pin
18	A125223-18	Pin: Cotter 3/8 x 5"
19	14505	Grease Fitting Straight
20	8613	Cotter Pin: 5/16 x 2-1/2"
21	A125056-24	Bushing
22	A125056-27	Bushing
23	A123299-08	4 Ear Drawbar Hitch Pin
24	A123299-07	2 Ear Drawbar Hitch Pin
25	AFN-00014	1 1/2 Slotted Nut
26	AFP-00001	1/4 X 3 Cotter Pin

# I-110 TS2

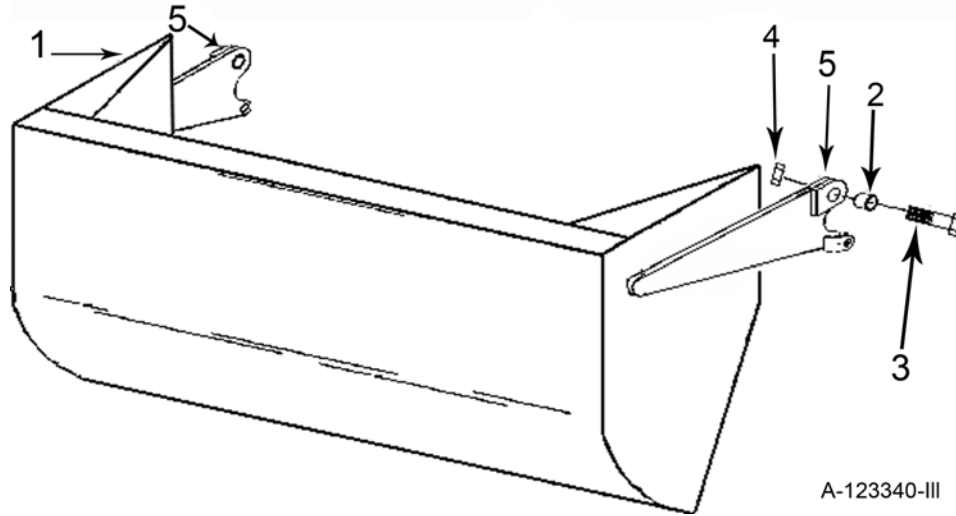
## Front End Assembly



Key Number	Part Number	Description
1	A123292	Front End Assembly
2	A123456	Trunion Mount Block
3	A14039	Bushing, 2-3/8" OD x 2" ID x 2" Long with Grease Passage"
4	A10152A	Frame Attachment Pin, 2" x 8-1/16"
5	A123292-17	Travel Lock
6	A125006	Safety Snap Pin
7	AFB-00054	Bolt: 1/2" x 3-1/2" w/7500 Nut
8	A125179	Bushing
9	AFB-00021	Bolt: 1 X 5 1/2 NC Gr. 8 -(7 req.)
10	AFN-00037	Nut: 1" NC Locknut (7 req.)
11	14505	Grease Fitting 1/8 NPT
12	AHF-00028	90 deg. Grease Fitting

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## Apron Assembly

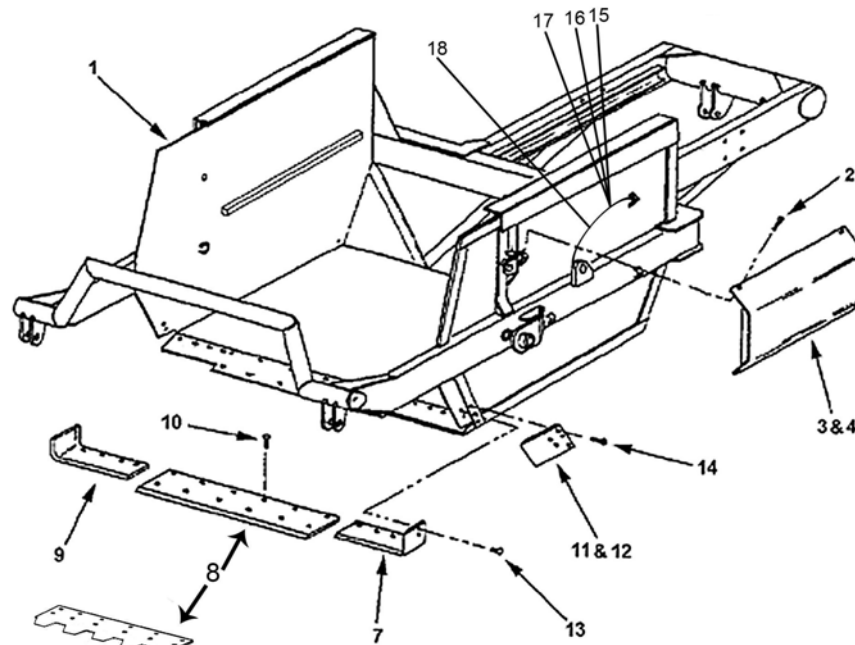


A-123340-III

Key Number	Part Number	Description
1	A123340	Apron
2	A123343	Bushing, 2" OD X 1 1/2" ID X 1 3/4" L
3	AFB-00038	Bolt, 1 1/2" NF X 5 1/2" L
4	AFN-00018	Nut, Self Lock 1 1/2" NF
5	14505	Grease fitting

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## Bowl & Frame Assembly



A-123302-III

### Blade Bolts Required:

		<u>Qty</u>
A123331 (& Ser)	PB9P-NC-088-0275	(12)
A123332L & R	PB9P-NC-088-0275	(4)
	PB9P-NC-088-0225	(2)
A123338L & R	PB9P-NC-088-0275	(4)
	PB9P-NC-088-0225	(3)

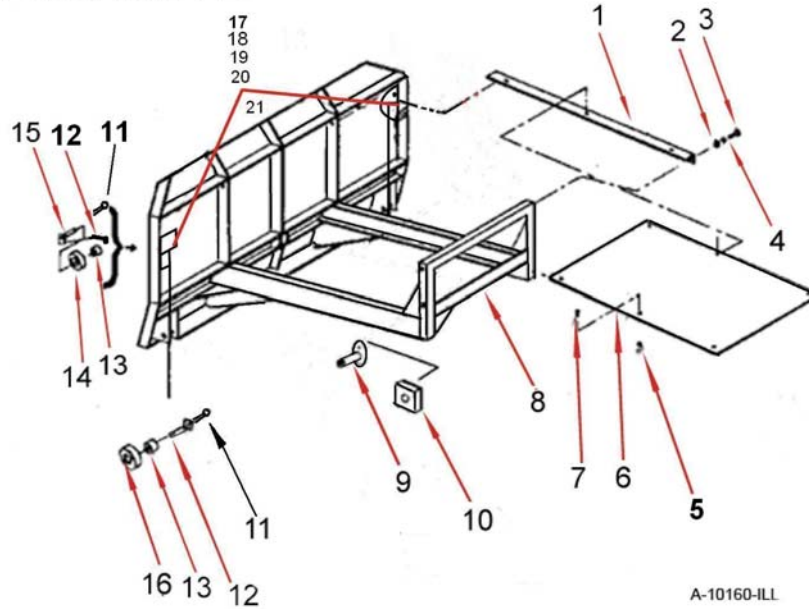
<u>Key Number</u>	<u>Part Number</u>	<u>Description</u>
1	A10156	Bowl and Frame I-110TS
2	AFB-00094	Flange Bolt, 3/8" NC x 1"
3	A123309-62L	Apron Cylinder Guard-Left
4	A123309-62R	Apron Cylinder Guard-Right
5	A123332L	Left cutting edge, 8"
6	A123331	Center cutting edge, 12" x 54"
6a	A123331SER	Optional Serrated cutting edge
7	A123332R	Right cutting edge, 8"
8	PB9P-NC-088-0275	Plow bolt, 7/8" NC x 2-3/4"
9	AFN-00019	Nut: 7/8" NC
10	PB9P-NC-088-0225	Plow bolt, 7/8" NC x 2-1/4"
11	AFN-00026	Nut: 7/8" NC Jam
12	A123338L	Left Bank Shaver Side Blade
13	A123338R	Right Bank Shaver Side Blade
14	A125019	Grease Fitting
15	A125026	Bulkhead Nut
16	A123309-89	Single Hole Tab
17	A125022	18" Grease Line



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## Pushoff Gate I-110TS2

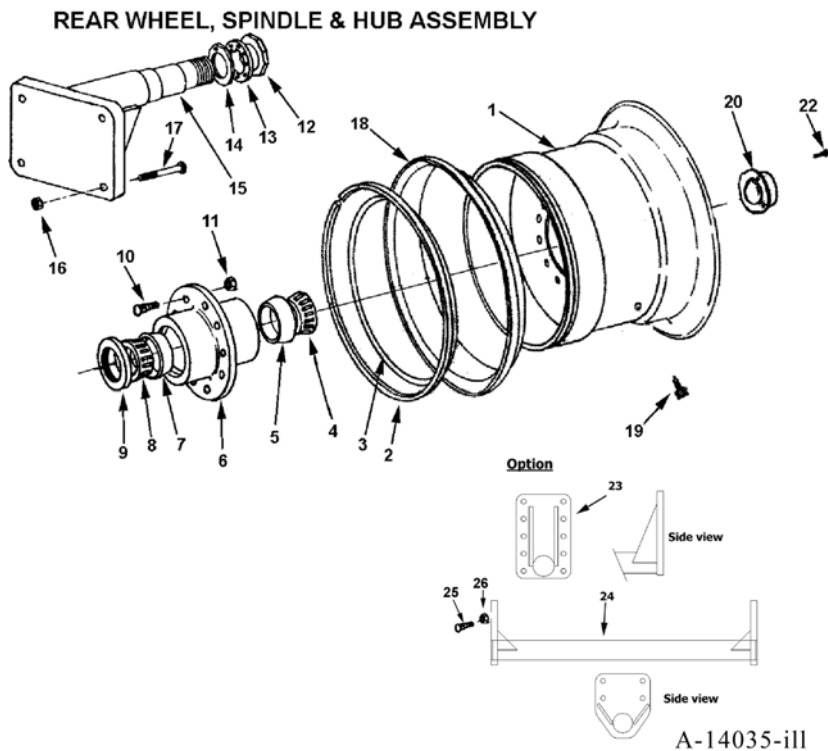
### Part # A10160



Key Number	Part Number	Description
1	A10159	Brace (L.H. & R.H. same)
2	AFN-00006	Nut: 3/4" NC
3	AFB-00037	Bolt: 3/4" NC x 2" Lg.
4	AFW-00002	Lockwasher: 3/4"
5	7500	Nut: 1/2" NC
6	A10171	Dirt Shield
7	AFB-00019	Bolt: 1/2" x 1-1/2" NC bolt
8	A10160	Pushoff Gate: Model I-110
9	A123305A	Pin: 1-1/4" x 2-3/4"
10	A123353	Wear Pad
11	AFP-00001	Cotter Pin: 1/4 x 3
12	A6007A	Pin:1-1/4" x 4-1/8" Lg.
13	A10163	Bushing: 1-3/4" OD x 1-1/4" ID
14	A123459	V-Roller: 4-1/4" OD x 1-3/4" ID
15	A123323	Pin:1-1/4" x 4-1/8" Tab Head
16	A10164	Roller:4-1/4 OD x 1-3/4 ID
17	A125020	32" grease line
18	A123323-40	Double Hole Tab
19	A125026	Bulkhead Nut
20	A125021	54" greaseline
21	A125019	Greasefitting 1/4-28 .54" long

# I-110 TS2

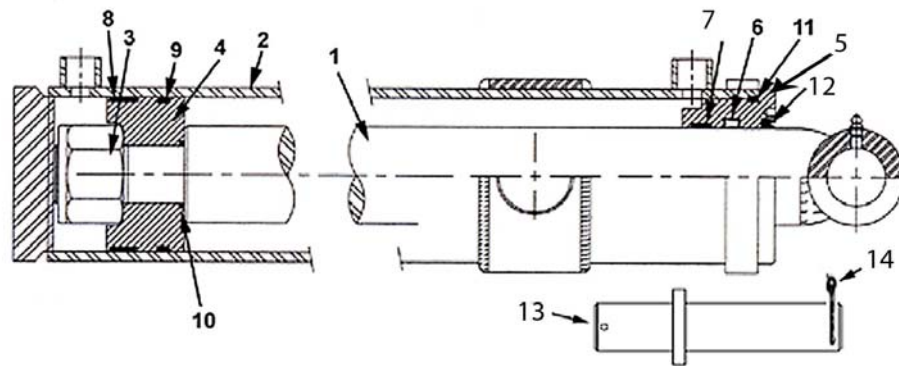
## Rear Wheel, Spindle & Hub Assembly



Key Number	Part Number	Description
1	A14035	Wheel - 17" x 25"
2	A14038	Lock Ring
3	A14008	O-Ring
4	A14015	Bearing cone
5	A14014	Bearing Cup
6	A14010	Hub
7	A14013	Bearing Cup
8	A14012	Bearing Cone
9	A14011	Grease Seal
10	A10176	Stud
11	A10046	Lug Nut
12	A10048	Spindle Nut
13	A10049A	Lock Collar
14	A10172	Nut with lock pin
15	A14037	Spindle
16	AFN-00001	Nut, 1" NF Toplock
17	AFB-00017	Bolt, 1" NF x 6-1/2" lg.
18	A14036	Slide Ring
19	A14016	Valve Stem
20	A14004	Hub Cap
22	AFB-00080	Bolt, 5/16" NC x 1/2" lg.
23	A14037E	Extended spindle plate
24	A14037P	Cross Pipe
25	AFB-00092	Bolt: 1" NFX 4 Lg, 8 Reg
26	AFN-00001	Nut: 1" NF Top Lock, 8 Reg

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## Lift Cylinder 5" x 16" Trunion Mount



**Part # A123324**

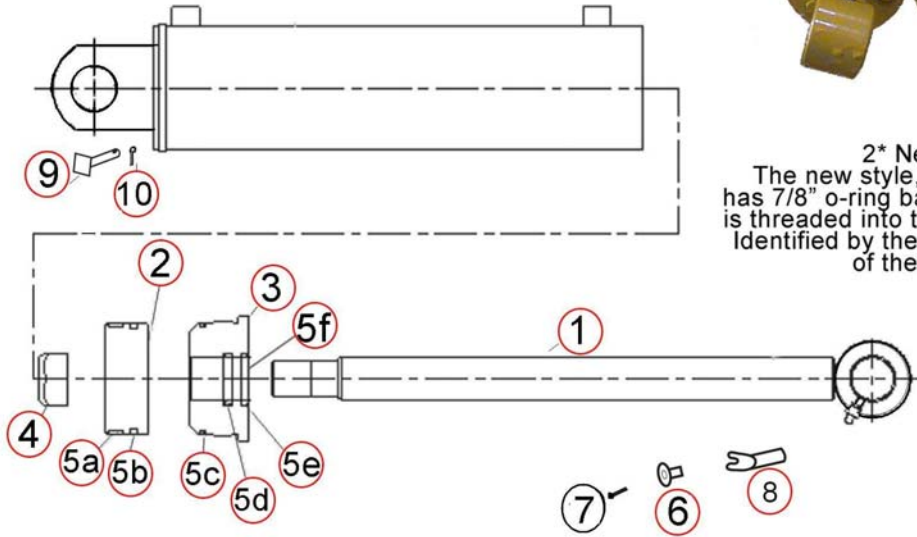
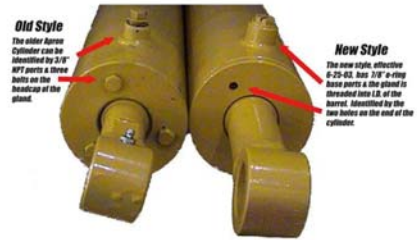
A-123324-III

Key Number	Part Number	Description
1	A123324-1	2-1/2" Rod
2	A123324-2	Barrel Weldment
3	A125159-34	1-3/4 NF Locknut
4	A123324-4	Piston
5	A123324-5	Gland
6	A123324-6	Rod Seal
7	A123324-3	Wear Band
8	A123324-8	Wear Ring
9	A123324-9	Piston Seal (2-pc.)
10	A123324-10	O-ring
11	A123324-11	O-ring
11	AHS-00140	Seal Kit (Items 6-12)
12	A123324-7	Rod Wiper
13	A123381	Pin 1-1/2" x 10-3/4"
14	AFP-00002	1/4" x 3" Cotter Pin

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## Apron Cylinder 4" x 13"

**1\*Old Style**  
The older apron cylinder can be identified by 3/8" NPT parts & 3 bolts on the head cap of the gland.



**2\* New Style**  
The new style, effective 6/25/03 has 7/8" o-ring base ports, the gland is threaded into the I.D. of the barrel. Identified by the 2 holes on the end of the cylinder.

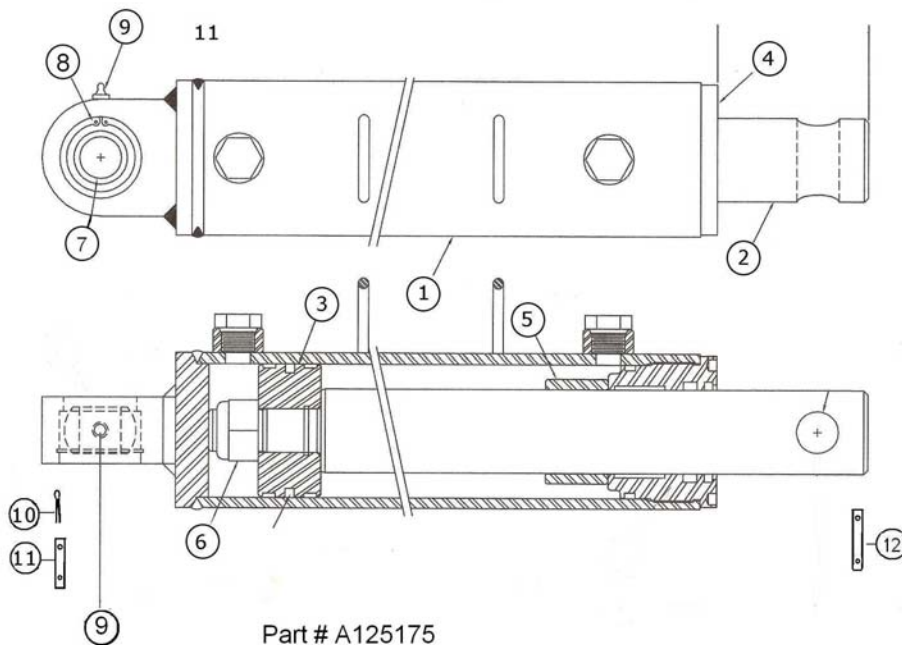
PART # A125050

A125050-III

Key Number	Part Number	Description
1	A125050-01	Rod 1-3/4" with welded eye
2	A125050-02	Piston
3	A125050-03	"Gland, Threaded"
4	A125050-04	Lock Nut, 1-1/8" NF
5	A125050-05	Seal Kit, a-f
5a	A125050-05a	Nylon Wear Ring
5b	A125050-05b	FSP Seal
5c	A125050-05c	O-Ring
5d	A125050-05d	Backup Washer
5e	A125050-05e	Hallite Rod Seal
5f	A125050-05f	Snap-in Rod Wiper
6	A123351	Pin Keeper Bushing
7	AFB-00019	1/2" X 1 1/2" GR 8 NC Bolt
8	A123362	Pin: Rod End
9	A123363	Pin: Barrel End
10	8602	Cotter Pin: 1/4 X 2

# I-110 TS2

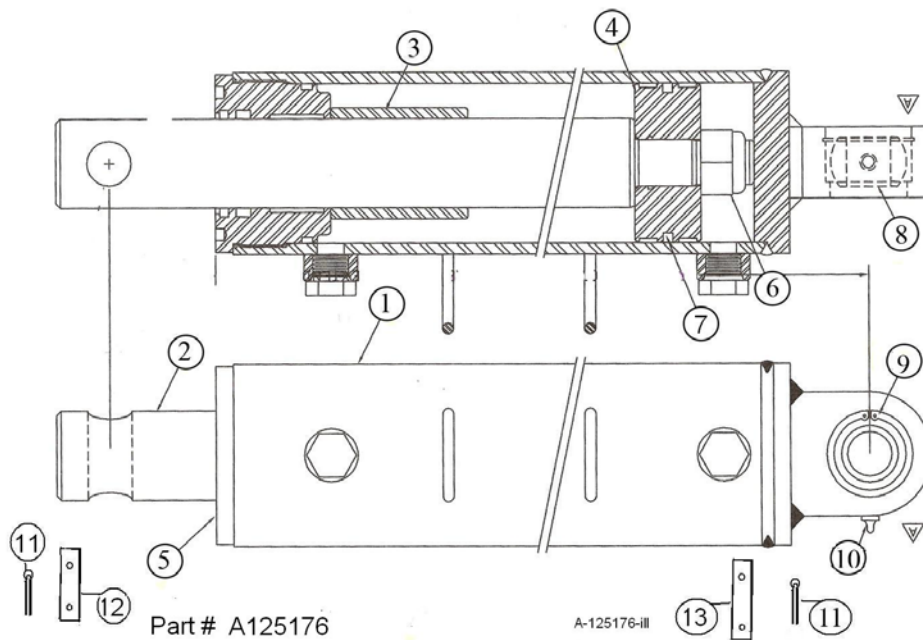
Pushgate Cylinder 4" X 54" Used on S/N 21476 and up



Key Number	Part Number	Description
1	A125175-10	Barrel Weldment
2	A125175-20	Shaft
3	A125160-30	Piston
4	A125160-31	Headland
5	A125175-32	Spacer)
6	A125175-33	1-1/4" Nylock Nut
7	A125175-35	Bearing
8	A125175-36	Snap Ring
9	A125175-37	Grease Zerk
10	8602	1/4" X 1" Cotter Pin
11	A9024	Barrel End Cylinder Pin
12	14033	Rod End Cylinder Pin
	A125160-40	Seal Kit (1)

# I-110 TS2

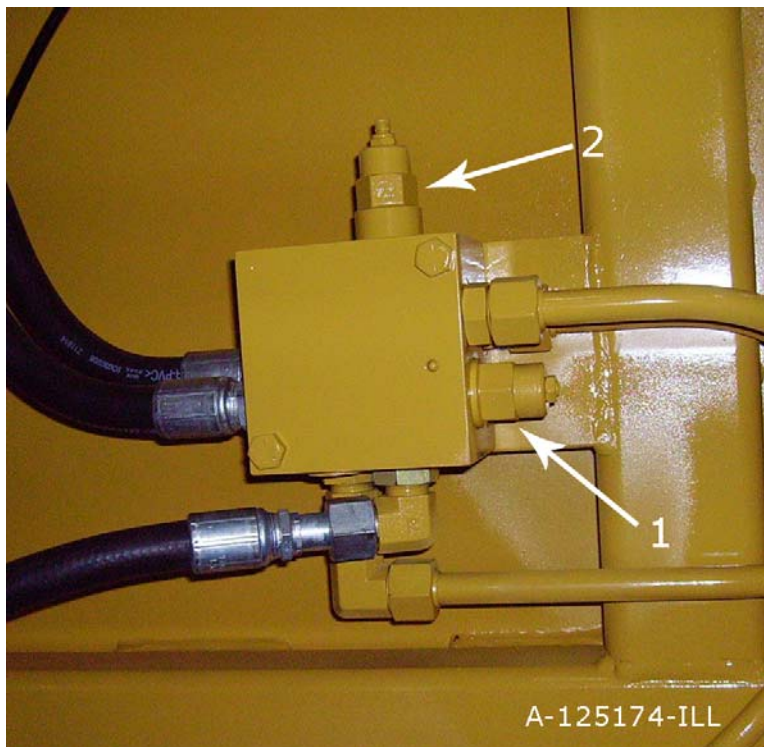
## Pushgate Cylinder (Optional) 4 1/2" Bore x 54" Stroke



Key Number	Part Number	Description
1	A125176-10	Barrel Weldment
2	A125176-20	Shaft
3	A125176-32	Spacer
4	A125176-30	Piston
5	A125176-31	Head
6	A125175-33	1 1/4" Nylock Nut
7	A125176-40	Seal Kit
8	A125175-35	Bearing
9	A125175-36	Snap Ring
10	A125175-37	Grease Zerk
11	8602	1/4" X 1" Cotter Pin
12	14033	Rod End Cylinder Pin
13	A9024	Barrel End Cylinder Pin

# I-110 TS2

## Hydraulic Manifold Assembly



**IMPORTANT:** This Hyd. Manifold was integrated into production April, 2006 It replaces A125070 valve.

For older machines see master parts book on Ashlandind.com.

### HYDRAULIC MANIFOLD ASSEMBLY

#### A125174

### SETTING THE APRON AND PUSHOFF VALVE

The manifold block containing the pushoff sequence valve cartridge and apron sequence valve cartridge is used to control two hydraulic circuits with one hydraulic remote. when the tractor hydraulic remote is activated, oil flows first to the apron cylinders until they are fully extended. Once the cylinders are fully extended, the apron circuits' hydraulic pressure begins to increase. Once the pressure threshold is surpassed (which is adjustable. See adjustment section), the sequence valve diverts the oil flow to the pushoff's hydraulic circuit. Once the push off is completely extended the operator then reverses the tractors hydraulic remote. The counterbalance valve will hold the apron open until the push off is fully retracted. The Apron sequence valve then opens and allows the apron to close.

#### Setting the valves:

##### STEP 1 PUSHOFF SEQUENCE VALVE

Loosen the lock nut (9/16") on the sequence valve cartridge. Turn the setscrew (4mm) clockwise until the front apron rises before the push-off begins to advance. (Earthmover should be empty) Turn the adjustment screw an additional 1/4 turn clockwise and tighten jam nut.

##### STEP 2 Counter Balance VALVE

Loosen the lock nut (9/16") on the counterbalance valve cartridge. Turn the setscrew (4mm) counter-clockwise until the apron holds in a raised position while rear gate is being retracted. Turn adjustment screw an additional 1/4 turn, tighten jam nut. DO NOT tighten adjusting screw more than necessary.

Key Number	Part Number	Description
1	A125162-01	COUNTERBALANCE CARTRIDGE
2	A125162-02	SEQUENCE CARTRIDGE

# MAINTENANCE CHECKLIST

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1. Grease all zerks.
  - a) Every 8 hours of operation.
  - b) See Lubrication Points section on next page.
  
2. Greasing the hubs.
  - a) Re-pack wheel bearings after 600 hrs of operation.
  - b) Completely clean grease out of hub and bearings every 1200 hours of operation.
  
3. Check tire pressure.
  - a) 20.5 - 25, 12-ply tire requires a tire pressure of 35-40 psi on a rear machine, 40-50 on a front machine.
  
4. Check all pins for signs of wear.
  - a) Daily
  
5. Check wheel lug nut torque.
  - a) After first 2 hours of operation.
  - b) Recheck daily for next 2 weeks.
  - c) Tighten wheel lug nuts in a star pattern.
  - d) Torque wheel lug nuts to 450 ft-lbs.
  
6. Check and retighten all bolts.
  - a) After initial 10 hours of use.
  - b) Again after 50 hours of use.
  - c) See Torque Specifications on next page.
  
7. Inspect cutting edges.
  - a) Daily
  - b) Replace cutting edges when center blade has been worn to approximately 6" and side edges worn to approximately 4".



**CAUTION!** Failure to replace worn cutting edges may result in unnecessary wear to the earthmover sides and floor.

Note: Please specify left or right "L" shaped cutting edges when ordering replacements.



# I-110 TS2

## TORQUE SPECIFICATIONS

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<i>Bolt Diameter</i>	<i>Torque Ft-lbs</i>
<i>1/4</i>	<i>12</i>
<i>5/16"</i>	<i>25</i>
<i>3/8"</i>	<i>45</i>
<i>7/16"</i>	<i>70</i>
<i>1/2"</i>	<i>110</i>
<i>9/16"</i>	<i>150</i>
<i>5/8"</i>	<i>220</i>
<i>3/4"</i>	<i>380</i>
<i>7/8"</i>	<i>600</i>
<i>1"</i>	<i>900</i>
<i>1-1/8"</i>	<i>1280</i>
<i>Lug Nuts</i>	<i>750</i>

## LUBRICATION

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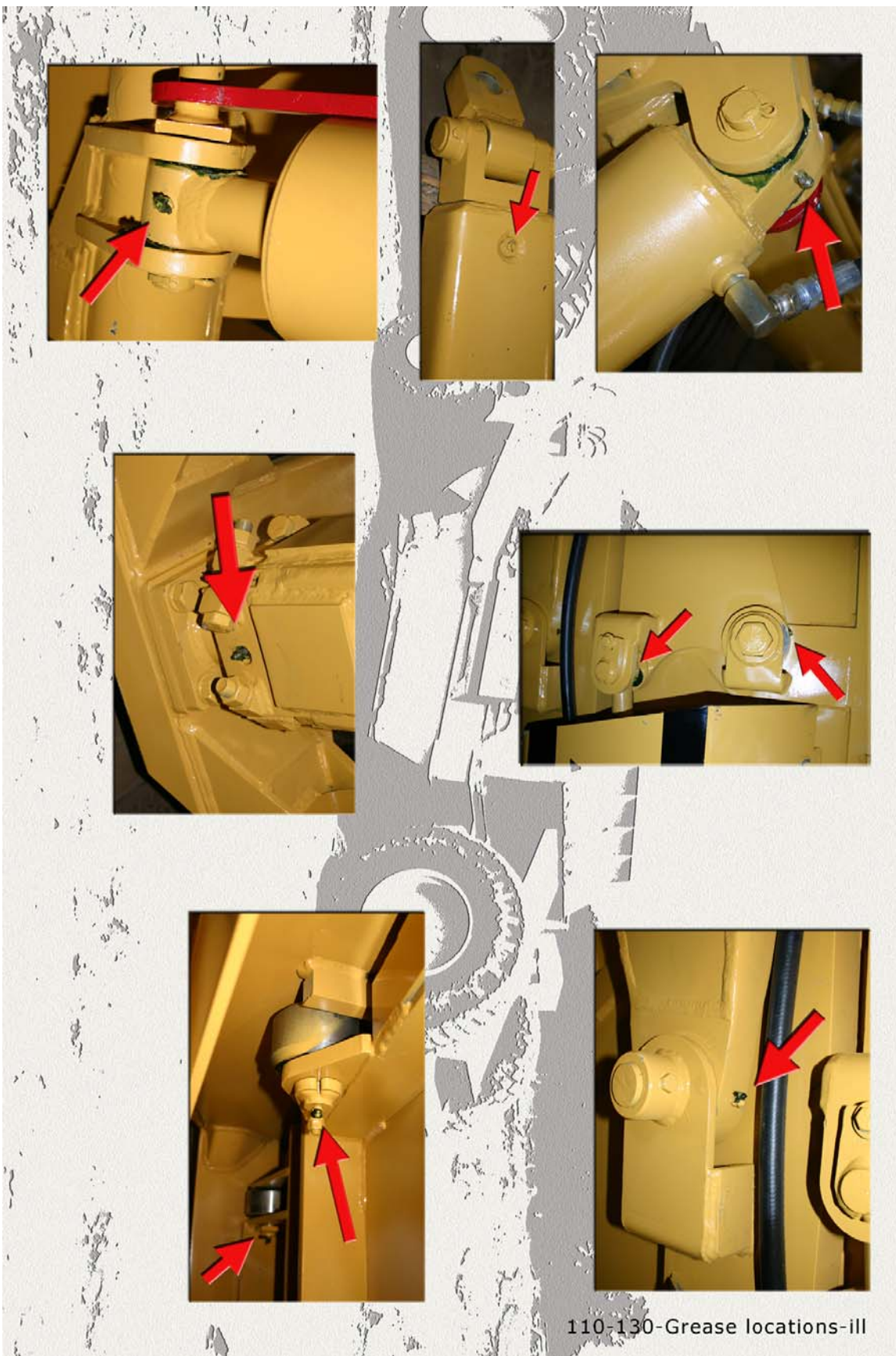
1. Grease all zerks every 8 hrs of operation with high quality, general-purpose grease.
  - a) Grease until grease flows from around pin.

### Lubrication Points (see III.)

1. Hitch – Horizontal and vertical pins.
2. Lift Cylinders – Rod end & Trunion; Both left & right sides.
3. Front Arm Pivot Joint – Both left & right sides.
4. Apron Cylinders – Rod clevis pin; Both left & right sides.
5. Apron Pivot Pin – Both left & right sides.
6. Hold-down Rollers – Both left & right sides.
7. Floor Rollers – Both left & right sides.
8. Tapered Rollers – Both left & right sides.

# I-110 TS2

## Grease Locations



**Description**  
Grease Twice a Day

## I-110 TS2



### **PUSHING THE EARTHMOVER**

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The I-110TS was designed to be pushed when equipped with the optional push-bar. However, Ashland Industries, Inc. **STRONGLY** recommends using extreme caution when pushing the I-110TS earthmover to prevent any unnecessary damage.

**CAUTION!** The I-110TS earthmover must be pushed in a straight line with a maximum of a 100 hp dozer. Do not ram or jar the earthmover while pushing and push at a constant speed.

### Introduction

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With proper care and maintenance, the I-110TS will give many years of reliable service. When a situation arises where the earthmover performance is not satisfactory, this section will give some pointers on finding and correcting the problem.

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### Grease zerk will not take grease.

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1. Grease zerk plugged.
    - a) Remove and replace grease zerk.
  2. Pin is frozen.
    - a) Remove, clean, and inspect pin.
    - b) Replace pin if necessary.
  3. Bushing grease passage is not aligned with grease zerk.
    - a) Remove, clean, inspect, and realign bushing.
    - b) Replace bushing if necessary and realign.
- 

### Push-off rollers do not roll.

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1. The rollers need lubrication.
    - a) Check zerk hole and grease.
    - b) Remove pin, clean, inspect, and replace if necessary.
  2. The roller bushing is worn out.
    - a) Remove roller assembly and replace bushing.
    - b) See parts manual.
- 

### Cylinders will not hold in preset position, i.e. the cylinder creeps.

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1. Seals leaking internally.
    - a) Remove and replace seal kit.
- 

### Machine cuts unevenly.

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1. Cutting edges worn unevenly.
  - a) Replace cutting edges.
2. Improperly inflated tires.
  - a) Check air pressure in tires.

## I-110 TS2

### Warranty Statement

# Limited Warranty Statement

Ashland Industries Inc. warrants each new product to be free from defects in material and workmanship. This warranty is applicable only for the normal service life expectancy of the product or components, not to exceed **six consecutive months** from the date of delivery of the new Ashland Industries product to the purchaser, or the date the product is first put into service via a rental agreement or other means, whichever occurs first.

The major components of swivel hitches used on Industrial series scrapers are warranted for three consecutive months from the date of delivery of the new Ashland Industries product to the purchaser, or the date the product is first put into service via a rental agreement or other means, whichever occurs first, except those components described below.

Genuine Ashland Industries Inc. replacement parts and components will be warranted for 30 days from date of purchase, or the remainder of the original equipment warranty period, whichever is longer.

Under no circumstances will it cover any merchandise or components thereof, which in the opinion of the company, has been subjected to misuse, unauthorized modification, alterations, an accident or if repairs have been made with parts other than those obtained through Ashland Industries Inc.

Ashland Industries Inc. in no way warrants Tires since their respective manufacturer warrants these items separately. Please call Ashland Industries Inc. to receive phone numbers of tire suppliers.

Ashland Industries Inc. in no way warrants wearable items such as cutting edges, front dolly wheel balls, socket halves, rollers, bushings, yoke hitch pins, hitch bushings, etc..

Our obligation under this warranty shall be limited to repairing or replacing, free of charge to the original purchaser, any part that, in our judgement, shall show evidence of such defect, provided further that such part shall be returned within 30 days from the date of failure to Ashland Industries Inc. routed through the dealer and distributor from whom the purchase was made, transportation charges prepaid. Upon warranty approval proper credits will be reimbursed for transportation.

This warranty shall not be interpreted to render Ashland Industries Inc. liable for injury or damages of any kind or nature to person or property. This warranty does not extend to the loss revenue, extra labor cost associated with downtime, substitute machinery, rental or for any other reason.

Except as set forth above, Ashland Industries Inc. shall have no obligation or liability of any kind on account of any of its equipment and shall not be liable for special or consequential damages. Ashland Industries Inc. make no other warranty, expressed or implied, and, specifically, Ashland Industries Inc. disclaims any implied warrant or merchantability or fitness for a particular purpose. Some states or provinces do not permit limitations or exclusions of implied warranties or incidental or consequential damages, so the limitations or exclusion in this warranty may not apply.

This warranty is subject to any existing conditions of supply which may direct affect our ability to obtain materials or manufacture replacement parts.

Ashland Industries Inc. reserves the right to make improvements in design or changes in specifications at any time, without incurring any obligation to owners of units previously sold

No one is authorized to alter, Modify or enlarge this warranty nor the exclusion, limitations and reservations.

Ashland Industries Inc.  
Warranty Department