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OFFICIAL JOURNAL OF THE HIRE ASSOCIATION OF AUSTRALIA AND HIRE SERVICES ASSOCIATION OF NEW ZEALAND INC.







OUR COVER PHOTO: Southern Cross Hotel, Exhibition Street, Melbourne. Venue for the 13th International Hire Convention & Equipment Exhibition, September 4th to 7th 1984.

HIRE RENTAL
AUSTRALASIA

OFFICIAL JOURNAL OF:

Hire & Rental Association of Australia Hire Services Association of New Zealand

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Seamail: \$A2.00 Airmail: \$A3.75 Melbourne is to host the Hire Convention and Equipment Exhibition in September 1984. Planning is well advanced and the venue will again be the popular Southern Cross Hotel, 131 Exhibition Street, Melbourne.

The Equipment Exhibition is a sell-out with some 43 suppliers ready to exhibit their equipment at two afternoon and the one evening session. Hirers, with their staff, are encouraged to attend the evening session together, to meet the industry suppliers and to view the range of equipment on display. A barbeque meal will be served Thursday from 7.00 p.m. and all exhibits will be staffed until 11.00 p.m.

All seminar sessions will be stimulating and hard hitting. Speakers at all three morning sessions have a positive message for members of the Hire Industry.

The social events and the ladies afternoon tours of our city sights should compliment the well balanced programme for those attending. We encourage full registration but do offer single day registrations. Block bookings for accommodation, at special convention tariffs, have been made with the Southern Cross Hotel. All delegate accommodation must be applied for, together with convention registration, through the Convention Secretary.

Think Big is the theme for this convention and I invite you to think big with your rental industry colleagues at the Southern Cross, during convention week, September 4th to 7th 1984.

Hoping to see you in Melbourne for the convention

Brian Elms

Chairman H & R Assoc Victorian Region.

Hire Association Directory

REGION 1

Hire Services Association of New Zealand P.O. Box 12-013, Wellington President: Colin Taylor (04) 85 8632 Secretary: Simon Stephens (04) 736 514

Hire and Rental Association of Australia -62 York Street, Sydney, 2000 President: Ron Williams (03) 211 9488 Secretary: Rolf Schufft (02) 290 0700

REGION 2

The Hire Association of N.S.W. P.O. Box 129, Beecroft, 2119 President: Jim Brown (02) 525 3333 Executive Director. Denise Layton (02) 848 9817

REGION 3

Hire and Rental Association of Australia – Queensland Region P.O. Box 3, Sandgate, 4017. President: Brian Telfer (07) 277 8566 Secretary: Dorothy Verney (07) 269 9171

REGION 5

Hire and Rental Association of Australia – South Australian Region
12 Pirie Street, Adelaide, 5000
President: Pat Pearce (08) 272 5422
Secretary: Frank Beecham (08) 212 4681

REGION 6

Hire and Rental Association of Australia

- West Australian Region

P.O. Box 569, Cloverdale, 6105.

President: Peter Noske (09) 274 4395

Secretary: Don Loxton (09) 451 9555

Hire Convention & Equip. Exhibition Melburne Sept. 4-7 1984

THINK BIG SPEAKER PROGRAMME

"GET YOUR STRATEGY RIGHT" says PHIL RUTHVEN

- Wednesday 5th Sept 9.30 a.m.

"Think Big – Get your strategy right in these unusual economic times" says Keynote speaker Phil Ruthven.

A Director of IBIS, Australia's leading business strategy consultants, Phil is well known to our regular convention goers who have followed with interest his informed comment over recent years.

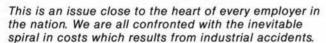
Phil contributes regularly to leading Australian newspapers, is a frequent guest speaker and commentator on radio and television.

IBIS has earned the reputation as Australia's most accurate forecaster of business trends and statistics. Their mainstream activity is stragetic planning and their clients include many of the top 200 corporations in Australia.



WORKERS COMPENSATION, WHAT DOES THE FUTURE HOLD?

- Wednesday 5th Sept 11.00 a.m.



We are all overwhelmed by the demands of the new legislation which determines new standards for health and safety in the workplace. We all have an interest to ask what does the future hold?

Mr Alan Jones, Executive Director of The Employers Federation N.S.W. will address the question of Workers Compensation on Wednesday 5th September at 11.00 a.m.

Alan has had wide experience in Employer/Union relationships and as an expert in Industrial Relations will give a stimulating, thought provoking address.



FACTORS EFFECTING THE AUSTRALIAN ECONOMY - Analyst Alan Carroll comments. - Friday 7th Sept 10.00 a.m.

Prominent economist and current affairs commentator Alan M. Carroll is possibly best known in his capacity as a business analyst on radio and television.

Expert in economic and commercial matters, Alan is a consulting councillor to the Committee for Economic Development (CEDA) and is involved in various small advisory groups to both Government and Opposition Economic and Industry Ministers. "What are the major factors effecting the Australian economy in the next two years." the theme of Alan's address may clarify for delegates some of the conflicting views projected in the media in relation to Australia's growth prospects in the next few years.



THINK BIG

THINK BIG! That's the theme for the convention and that's the message to all delegates who attend. A stimulating programme has been planned and it's claimed to include "the best seminar programme yet presented at an Australian Hire Convention". After reading the list of names on the programme, this claim may well be valid.

Hire people from across the nation will assemble at the Southern Cross Hotel during convention week and we trust you will be included.

Delegates are encouraged to live-in during the convention, and the programme has been structured to give ample opportunity for delegates to mix and talk shop with their colleagues.

EQUIPMENT EXHIBITION IS A SELL-OUT!

Eager exhibitors wishing to promote their wares at the forthcoming Melbourne Convention snapped up all available floor space within days of its release. Memories of \$1.3 million in sales recorded at the 1981 convention may have been the stimulus, but whatever it was, all looks well for the forthcoming convention.

The two day equipment exhibition will be open Wednesday 5th September 1.00 to 5.00 p.m. and Thursday 6th September 1.00 to 11.00 p.m. in the ballroom at the Southern Cross Hotel. The exhibition is open at night for Hirers and Staff unable to attend during the day.

It's your opportunity to visit together, to talk with the industry suppliers, and to view together the range of equipment on display.

A barbeque meal will be served from 7.00 p.m. and all exhibits will be staffed until 11.00 p.m.

BIG PRIZES TO BE WON!

Prizes worth thousands of dollars will be won by delegates purchasing equipment at the Equipment Exhibition.

A receipt for equipment purchased will be issued by the exhibitors. Present these receipts at the reception desk to collect your lucky tickets. One ticket will be issued for each \$500 of receipt value, or part thereof. i.e. \$550 receipt – two tickets, \$1050 receipt – three tickets.

A major prize has been provided by the Hire Association and many exhibitors have donated items of equipment for use as prizes.

A comprehensive range of rental equipment will be on display and many convention specials will be offered by the exhibitors.

HARDER HITTING!





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WINNING WITH AUSTRALIA II SYNDICATE'S SPORTS PSYCHOLOGIST

- Friday 7th Sept 9.00 a.m.

Whether its racing yachts or running rental one needs to engender a positive frame of mind in the whole crew to get results.

In this session we will look to developing positive Employer-Employee relationships with staff, dealing with clients, in fact most aspects in Human Relations will be addressed by Laurie Hayden's in his address "Winning". Laurie was consultant sport psychologist to the Australia II Syndicate for the 1983 America's Cup Challenge.

A principal partner of Laurie Hayden & Associates Pty Ltd, Human Resources Consultants, Laurie is a specialist in Stress Management and a consultant to both business and the sporting fraternity.



THE AMERICAN RENTAL SCENE - Thursday 6th Sept 9.30 a.m.

Visiting President of the ARA S.G. Walker Jr from AAA Rental Centre, Knoxville, Tennessee will provide a personal insight into "The American Rental Scene".



THINK BIG **MELBOURNE** CONVENTION SEPT. 4-7 1984

BODY LANGUAGE, INTERPRETED BY ALLAN PEASE

- Thursday 6th Sept 11.30 a.m.

An international best selling book "Body Language – How To Read Others' Thoughts By Their Gestures" by Allan Pease is now in its 10th printing, with over 150000 copies now published worldwide.

Its successful author Allan Pease is Managing Director of Pease Training Corporation Pty Ltd, a training and management consultancy based in Sydney. Body Language, a communication skill Allan has developed, will be explored and expanded when he addresses delegates on the morning of Thursday 6th September.

A brilliant speaker, Allan is a natural on stage – brilliantly motivating, inspirational, humorous and much in demand for sales and management training seminars.

OPPORTUNITIES AND ATTITUDES - Thursday 6th Sept 10.00 a.m.

An address by Fr. Vincent Kiss, Manager Charitable Trusts Department ANZ Executive & Trustee Company Ltd. A motivational speaker, Fr. Vincent Kiss is well known for his addresses to Lions Club, Rotary, Apex and Jaycee Conventions, and from speaking to both industry and the business world.

KEYNOTE ADDRESS - Friday 7th Sept 11.30 a.m.

We report that negotiations are being finalised with a dynamic International Rental industry expert to present the final Keynote Address.



Customers come back for easy-touse equipment like this rugged, professional-quality Electric Eel® Model C. It quickly and easily clears tough stoppages in 3" to 10" lines up to 200' long. And its self-feeding action means custom-



Electric Eel (Aust.) 11 Carrington Rd., Marrickville 2204 ers never have to touch the patented dual cable while it's rotating. The handle folds to fit car boots, and the cable can be repaired or replaced fast and inexpensively.

Call or write today for a free Rental Information Kit with product details.

Phone: 559 5622

Briefly . . .

N.S.W. APPOINTMENT

Norton Villiers Australia Pty. Ltd., distributors of the Mitsubishi, Wisconsin and Villiers Engines and Engine-Driven Equipment, has recently appointed Alan Thearle as Senior Sales Representative for New South Wales.

Alan has been closely associated with Rural New South Wales for 20 years, originally as a Farm Manager and later as Country Representative for leading manufacturers. He currently holds a Private Pilot's Licence, primarily for pleasure flying.

Norton Villiers' Sydney Warehouse has moved from Revesby to larger premises at Milperra, under the management of Barry Donovan: (02) 774 1462.



Alan Thearle

TELECOM BUYS 90 'WITCHES'

MOLE Engineering Pty Ltd, distributor of Ditch Witch trenches has won a \$2.1 Mil contract for the supply of 90 machines to Telecom Australia.

The contract calls for the delivery of five different types of trencher, ranging in size from a compact, pedestrian-controlled 7 kW (9hp) unit to a heavy-duty 48kW (65 hp) tractor-type machine.

Noteworthy Signs

Ron Wyatt, Flextool Qld. spotted this sign:

DRIVERS
NOT FIRED WITH
ENTHUSIASM
WILL BE FIRED
WITH ENTHUSIASM

NEW APPOINTMENT

Chep-Active Equipment Rental, a division of Brambles Holdings Ltd, has appointed Mr Geoff Southwell as heavy equipment manager.

He brings with him some 20 years experience in the construction industry. Southwell will be responsible for assisting clients in their selection of compaction equipment. He is a specialist in the compaction industury with particular work experience in soil, rock and asphalt pavement applications.

Southwell has served on various committees, including the Australian Asphalt Pavement Association and the Earthmovers and Contracters Association.

SEAT BELTS FOR EARTHMOVING MACHINERY

The Standards Association of Australia has published a new standard on seat belts and seat belt anchorages for Earthmoving Machinery.

AS 2664 – Earthmoving Machinery – Seat Belts and Seat Belt Anchorages, was prepared in conjunction with the standard of Operator Protective Structure (AS 2294) as it is necessary for operators of earthmoving machines to be properly restrained in order to be protected by O.P.S. in the event of a roll over.

Copies of AS 2664 can be purchased from any SAA office at a cost of \$4.80 plus \$1.25 postage and handling charge.

MHPs PUT HIGH RENTAL RETURNS IN EASY REACH

The Series MHP Mobile Hydraulic Platforms currently offered by Crown Controls' Access Division are proving to be a bonanza for the hire and rental industry.

Selling for around \$19,000, the MHP represents a particularly attractive economic alternative to truck-mounted cherry pickers which normally retail at around \$60,000.

With rental for the machines being set at around \$110 per day, only 4 days of hire use per month are required to more than recoup the lease and maintenance costs.

This represents an exceptionally high return for outlay on the part of the rental organisation.

The MHP range features three sizes, the MHP10, MHP12 and MHP14 with working reach heights of 10, 12, and 14m respectively. Of these, the 12 has been proving the most popular.

The head of Crown Controls Access Division, Mr Ross Hogan, attributes the popularity of the MHP to its significant time and labour saving through avoiding the necessity for the erection of scaffolding and trestles.

"What used to be an awkward and time consuming task is now a simple, safe and efficient one-man operation", he said.

Operators can enter the work basket at ground level and operate the unit entirely using duplicate controls within the basket. This includes starting and stopping the engine, and full lift and rotate operation of the hydraulic system, using hand control valves mounted on the column within the basket.

A major advantage of the machines is that no special skills are required, with the controls clearly marked for ease of operation.

The MHP unit is of double boom articulated type with a single 2 man basket.

The boom itself is fabricated from RHS and plate, producing light but strong sections with wide bearing pivots giving long life and rigid operation.

It is capable of a continuous 360 degrees rotation in either direction.

Tricky multiple manoeuvres previously required to re-

position the basked against a wall as the operator went higher, are avoided by its ability to lift vertically to 12 m.

The trailer mounting with a low centre of gravity further adds to the potential rental use of the MHP by enabling it to be safely towed at maximum road speeds with most vehicles.

According to Mr Hogan, in designing and building the MHPs, particular attention was paid to safety.

A unique automatic slew brake is fitted to stop the basket 'drifting' when operating on a slope or when workmen within are pushing against the job, such as in drilling work.

In addition, pilot operated check valves ensure that booms are locked in a stationary position in the case of line or engine failure.

Mr Hogan said the biggest advantage of the unit over similar access vehicles is in the telescopic legs attached to each corner.

These legs, operated hydraulically, extend to brace the trailer and provide an extremely stable base for platform operation, also eliminating meddlesome adjustment and re-adjustment of manually extended supports.

According to Mr Hoga, use of the MHP is not restricted to exterior work such as tree lopping, elevated electrical and plumbing work, painting and signfixing.

"Its 200kg capacity and ability to be driven through standard double doors makes it ideal in areas such as maintenance and display rigging in supermarkets and halls, with the added advantage over scissor lifts of a 5m outreach", he said.

"Its immense diversity of uses, coupled with the safety aspects, give the MHP enormous potential in the rental industry".



Working to new heights of efficiency

Crown has revolutionised access equipment with the MHP series hydraulic platform. When trailer mounted, it can be towed to the worksite, unhitched and left on site, whilst your vehicle keeps working. Workmen can reach up to 14 metres fully controlled from the work basket, in just a few minutes after reaching the site . . . and it costs surprisingly little.

A demonstration will convince you that there is a better way to paint, clean, repair, wire, prune, or replace in comfort and safety. A full range in the MHP series has been engineered by Crown, to include trailer and truck mounted versions and a variety of power sources to suit you.

For a free demonstration

Phone – Sydney 604 6000 Melbourne 560 5144 Brisbane 345 7300 Adelaide 277 3011 Perth 451 7966

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Rate Reviews May Be the Key to Profitability

Published by courtesy: Rental Age.

By Ted de Vries

It is difficult to change a routine pattern or practice that has been in effect for some time. When a habit has been established, psychologists confirm, it takes a substantial event to reestablish or change



a habit-forming routine.

One rental center charged X amount per foot for 2-inch pump hose and charged X amount per length for larger sized hoses. Asked why, the reply was, "I do not know except we have been doing it this way for years."

Historically, rental business owners have generally reviewed their rental rates in December to start with revised charges Jan. 1 of the following year. The more aggressive owners will review their rates in June and December. If profits are sagging there might be a quarterly review, but this would be more the exception than the rule. In asking rental centers why rental rates are not reviewed monthly, the usual reply is, "We have other more important things to do," or, "We do not have that much time to spend reviewing rates that often." The most significant factor affecting bottom line profits seems to get the lowest priority.

The usual procedure for evaluating rental rates is to check those rates which are quoted in a national publication and then check the competition. The lower of the two figures will generally be accepted as the established rate with a small degree of variation. Why do we accept and try to meet prices established by the least innovative and least progressive competitor in our area?

If you have studied rental rates in specific regions from surveys conducted by national periodicals in the past, you will find variations of 100 percent in the rates charged. This certainly is not professionalism at its best. Are rental centers really doing their homework?

A Question of Management

A new way of determining management ability is to measure performance in terms of return on replacement capital. This may be referred to as "differential management." Under these conditions a manager who happens to run a plant that is fully depreciated has no advantage over a manager who is going to run a brand new plant. Without the expense of depreciation a manager will show much higher profits. By looking at assets in terms of replacement costs, each manager is on an equivalent basis in establishing return on these assets. Such competitive comparison causes managers to do a better job of concentrating on pricing.

How would this concept relate to rental centers? There are a number of items in your inventory that are six to 10 years old. During this period we all recognize that purchase prices have doubled. If you had to replace your total inventory at today's prices, would the rental rates you are currently quot-

ing make your business profitable, break even or lose money? Think about it!

Tightening the Reins

Financial discipline is a necessity for profitability. Do you know what your break-even figure is on every contract you write? Is it \$2 or is it \$10? Take your total expenses for the year and divide this by the number of contracts you write. You will find your profitable items are carrying many rental items that are losing you money. Can you afford to rent a trailer for half a day that takes 45 minutes for you to hook up and connect lights? Can you afford to send two upright tampers out to make sure that one works all day—and then charge only for one of them? Yes, it is happening. Which items in your rental fleet have quadrupled in replacement cost while your rental rate has not increased in the last five years? If you had the information, the rental rates would flash red for revision, but we do not really have the information or we are letting competition send us the wrong signal.

Let us take a lesson from the breakup of American Telephone & Telegraph Co. If you have been following events, telephone rates will increase by the new local/regional telephone companies. That is because previous pricing schedules made profitable services subsidize the unprofitable ones. Businesses subsidized residential users, long-distance calls subsidized local ones, urban telephone users subsidized rural ones and infrequent callers subsidized their more talkative neighbors. Prices will now move in a direction that more clearly reflects the cost of providing service.

Do you really know which rental items in your inventory are carrying the unprofitable ones? Do you really know which items are unprofitable?

Carefully evaluate service time, delivery costs and maintenance.

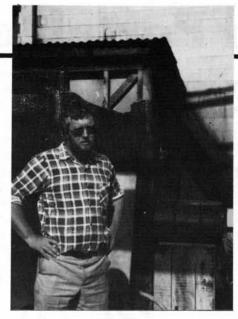
Don't you think it is time for rate review? Someone once said, "It is a true miracle when a man finally sees himself as his only opposition." When it come to adjusting rates, rental owners oftentimes fight themselves more than the customers do.

HIRE ACTION MELBOURNE AUSTRALIA 1984



13th International Hire Convention and Equipment Exhibition

Southern Cross Hotel — Melbourne Sept. 4-7 1984



Top: Business goes on for owner Bill McEntee despite the fire.

Lower: McEntee Hire Service, open for business after the fire.

Right: With the fire extinguished, damage to building and rental equipment was assessed.

DISASTROUS FIRE STRIKES McENTEE HIRE

It was a normal week day opening that morning on the 29th March, 1983 at 7.30 a.m., for Bill McEntee and his staff of McEntee Hire, Papakura, Auckland; or so he thought.

Ten minutes later the building was ablaze and while Bill struggled with the extinguisher the fire brigade was called and the fire was put out in twenty five minutes.

The scene afterwards was an incredible mess. All the small electric tools were fused together in a contortion of plastic, wire and metal and what was a tidy lay-out of hire equipment now looked a pathetic jumble of rubbish.

All equipment inside the building was lost, but the yard storage was safe. The hire agreements covering equipment out, were fortunately sored in a steel flameproof box and were saved, although there was a hint of charring.

No problems were experienced in the equipment being returned, and customers even left notes in Bill's letterbox with information of previous hires in case the records had been lost in the fire. The liaison between Bill and his customers is obviously well cemented.

The support from the trades people was also of top quality and with one company offering Bill new equipment and the kind rejoinder of "Pay me when you get yourself sorted out." Such is the wealth of a Hire Association.

A new building will rise from the ashes and Bill will be richer in experience of the ways of life, but it will one experience he will not want again.

Peter Lawrence





N.S.W. EMPLOYMENT PROTECTION ACT 1982

A new regulation made under this Act exempts additional categories of employees from the Act. The new regulation has three consequences:—

- It is no longer necessary to lodge notices of termination under either Section 7 or 8 of the Act in respect of employees who are **not** covered by an award or industrial agreement.
- Notices under those Sections need not be lodged where an employee is terminated and a severance payment in respect of that termination is made in accordance with the recommendation of the President of the Commission made on 29 July 1983.
- The relevant scale of severance payments is set out below.
- Notices under Section 7 of the Act need not be lodged where, at the time of termination, the employee has not been employed by the employer continuously for at least 12 months.

Length of Continuous Service

Less than 1 year 1 yr+ but less than 2 yrs. 2 yrs+ but less than 3 yrs. 3 yrs+ but less than 4 yrs. 4 yrs+ The recommended scale of severance payments referred to in 2 above is:-

Rate of Calculation of Amount of Severance Payment

yrs. of age
Nil
5 weeks' pay
7.5 weeks' pay
8.75 weeks' pay
10 weeks' pay

Operating Hints for Portable Compressed Air Systems

Understanding how portable compressors and their systems work results in longer life through proper maintenance and operation.

By A.N. Athans Ingersoll-Rand

The reputation of compressed air as a dependable power source is legend in the hostile environment of construction and mining projects. But the very ruggedness and tolerance of these systems invites user abuse in the field. This needn't by a problem. Preventing and correcting abuse and properly maintaining a pneumatic power system can be easy when you follow—and instruct your rental customers to follow—basic rules for operation and maintenance.

A basic in-field pneumatic system consists of a portable compressor, a pneumatic tool, a length of hose or piping to carry the compressed air to the tool, and a lubricator to inject oil into the air line to lubricate the tool.

Starting with the compressor, there are the obvious maintenance operations of changing oil and servicing the air and oil filters. Then there are not-so-obvious precautions. Rotary screw compressor cooling systems, for example, operate somewhat differently from engine and hydraulic cooling systems that remove as much heat as possible and maintain a low operating temperature to extend component life.

Portable rotary screw machines, on the other hand, must maintain a moderately high operating temperature to extend component life. High temperature is needed because air loses its ability to hold moisture in its gaseous state as it is compressed. As pressure rises, the humidity in the air precipitates in the form of water droplets. If droplets remain in the compressor, they attack internal metal parts, etching and pitting bearing surfaces, and ultimately cause premature failure. Portable compressors solve this problem by maintaining an internal operating temperature that is high enough to



keep the water in its gaseous state, so it is discharged with the air.

Thermostats in a typical portable are set to maintain a minimum air temperature of 180 degrees F. Actual operating temperatures will range to 245 degrees F depending on ambient temperature and compressor load. Understanding these physical facts about compressed air, the operator should better appreciate the importance of the following operating procedures:

- Always warm up the compressor a few minutes before putting it under load. Bringing the system to operating temperature this way will help prevent condensation inside the air-end.
- Likewise, at the end of the shift, run the compressor unloaded for a few minutes to stablize the internal temperatures before shutdown.
- While the compressor sits overnight, a certain amount of suspended water will settle from the oil. In units with large receiver tanks, the amount of settled water can be considerable.

Because of this, it is important to open the drain valve to bleed off condensation before starting the machine at the beginning of every shift.

A portable compressor's separation system may also receive inadvertent abuse. In oil-flooded screw and sliding-vane compressors, the separator element appears as a large filter mounted at the discharge of the receiver tank. If the separator element plugs, compressor discharge capacity is reduced; if the separator element fails, lubricating oil from the cooling system discharges with the compressed air. If the compressor powers a piston or rotary tool, this oil carryover often goes unnoticed until the compressor overheats from low oil level. But if the compressor powers painting or sandblasting equipment, the problem becomes immediately obvious.

Premature failure of the separator element almost always results from poor operating procedures, namely ingesting dirty air or exhaust soot to plug the element, or allowing sudden

bursts of pressure at the discharge to collapse the element. Likewise, when the compessor works under excessive air demand, either because the compressor is too small or the air tool is worn out, less efficiency from the separator element can be expected. Since the air passes through the element at a reduced pressure, for example, 75 versus 100 psi, it expands somewhat, and velocity through the element increases. This increased velocity carries oil past the element fibers, causing oil carryover in the discharge air. Additional problems may appear as the higher velocity causes higher pressure drop across the element, increasing danger of the element collapsing.

The obvious remedy is to avoid cutting corners when sizing the compressor to the application. Leave enough reserve capacity to maintain a relatively high operating pressure. If the compressor is being used to deliver high volume, such as pressurizing a large vessel, make sure the minimum pressure valve maintains a relatively high delivery pressure in the receiver tank. Do not run the compressor at full

delivery with little or no backpressure.

A final note on separator elements. If the compressor is being used where the slightest chance exists for foreign material, such as sand or grout, backing up into the receiver, install a check valve in the discharge line at the receiver. This minor precaution can save thousands of dollars in downtime and repair bills.

Hoses

The interconnecting hoses or piping between the compressor and tool warrant special consideration to maximize performance and safety. Size and composition of hoses are of particular concern. Many hoses designed for compressed air service have a porous outer cover to prevent blistering, which results when air seeps through the inner tube of the hose. Hose reinforcement may be fabric or wire braid, depending on hose diameter and air pressure.

Hose diameter must be selected to provide minimal pressure drop, which will hamper tool performance. At lower pressures, the volume of compressed air is greater than at higher pressure, and hose size must be increased accordingly to prevent excessive pressure drop.

To picture what happens, consider the compressor as an air pump that delivers only volume into the system. When this volume of air meets a restriction, such as in an air tool, pressure builds. Other restrictions encountered along the way also cause pressure. If pressures were measured along the system, they would be highest at the compressor because of all the restrictions downstream, and lowest at the tool. The difference between pressures at the compressor and tool is caused by the pressure drop of the interconnecting pipes and hosing.

Pressure measured at the compressor represents a total of all the pressure drop in the system. A classic performance problem arises when hoses of insufficient diameter are used between the compressor and tool. The compressor discharge pressure gauge reads maximum, say 100 psi, and the compressor may even be partially unloaded (running at reduced rpm). But in reality, the hosing is creating a high percentage of that 100-psig pressure, and



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the tool is starved for both pressure and volume. The only way to trouble-shoot this situation is to test pressure directly at the tool inlet while the tool is running. A gauge may be teed into the inlet, or a needle gauge may be inserted into the hose. If more than 10 percent of compressor discharge pressure is being lost in the transmission lines, larger diameter hoses and fewer restrictions are in order.

Safety

One cannot overstress the importance of safety when working with pneumatic piping and hose. A broken air line will whip with tremendous force and inflict serious injury to anyone nearby. Therefore, install a velocity fuse at the compressor discharge to shut off the air automatically if a line breaks. Use safety cables at hose coupling points to prevent the hose from flailing if a coupling breaks. Take the time to inspect all clamps and couplings for loose or missing nuts and bolts.

Lubrication

The lubricator and tool form the business end of the pneumatic system.

Ideally, the lubricator will be sized to provide sufficient oil for at least four hours (a half shift) of operation. The type and size tool determine the type and amount of lubrication. Generally, motor-powered tools take a light viscosity lubricant, while piston tools that impact take rock drill oil. In the absence of specific data, a rule of thumb for oil consumption is one-third pint per hour per 100 cfm.

It is good operating procedure to blow out any foreign material in the air line before attaching the tool. While doing this, make sure to fasten the free hose end securely so it cannot whip about. This is also a good time to check for a mist of lubrication in the air-stream. A new hose will absorb a considerable amount of oil in its inner tube during start-up. Hold a clean card in the discharge airstream to check the amount of oil in the air.

Major causes of air tool problems include ingested foreign material and lack of lubrication. Most failures from these causes can be prevented by careful attention to a preventive maintenance program, periodically disassembling and inspecting tools and promptly replacing questionable parts.

Inspect internal parts for scoring or heat checks that indicate lack of lubrication. If this exists, replace these parts, and correct your lubrication procedures.

Be sure to replace wear items such as bushings, bearings and vanes at the earliest signs of wear. Also, make sure that a sufficient supply of replacement parts backs every tool and compressor on the job. The inventory should include oil and filters for the compressor, lubricating oil for the air tools, spare hoses and fittings and high wear replacement parts such as side rods and gasket kits.

Finally, make sure compressor and air tool rental customers are intimately familiar with the operation and maintenance requirements of their equipment. The extra time taken to instruct them on safety, preventive maintenance, and operating techniques will pay for itself many times over.

A. N. Athans is manager of product training, Ingersoll-Rand Construction Equipment Group. Reprinted with permission of Compressed Air magazine.) Published by courtesy: Rental Age.



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Write 108 on Reader Inquiry Card



Top: Anita and Tom Jacobsen chat with the visitors at their barbeque.

HIREMEN VISITTHE MACKAY DISTRICT

Hirers from the North Queensland area visited Mackay recently. Several took the opportunity to attend the meeting of the HAA councillors being held in Mackay. "Regional council meetings provide an opportunity for hire people away from the city centres to meet the councillors and to acquaint themselves with the activities of the Association", President Ron Williams commented.

Host to the visitors was Tom

Lower: Garry Hill, Hillco Hire, Emerald and Ron Williams, HAA PResident chat in the afternoon sun. Jacobsen, Jayhire, North Mackay who arranged a day tour by bus to Shute Harbour, then by boat through the Whitsunday Passage to the islands of Daydream, Hook, with a visit to the underwater observatory, and South Molle. A quick call to Prohire, John Stanwix hire yard at Proserpine was included on the return trip to Mackay. Tom also took the visitors to see the huge coal loading facilities at Hay Point and Dal-

Centre: Tom Jacobsen explains the operation of the Hay Point Coal Loader to Mal Williams HAA Councillor N.S.W.

rymple Bay. On the return trip they called to visit some local hire yards including Keogh's Hire Service, Coates Hire Service, Millens Electrical & Hire and finally his own business Jayhire and his new party hire division Fiesta Rentals in North Mackay. Anita and Tom invited the visitors and local hiremen with their wives to their North Mackay home for a barbeque. A most enjoyable evening was had by all.

Right: Morgan Keogh, Keoghs Hire Service talks with visitors to his hirevard.







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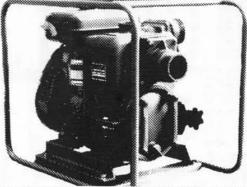
introduced in 1981. These provide a minimum of 4 cfm per hp.

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